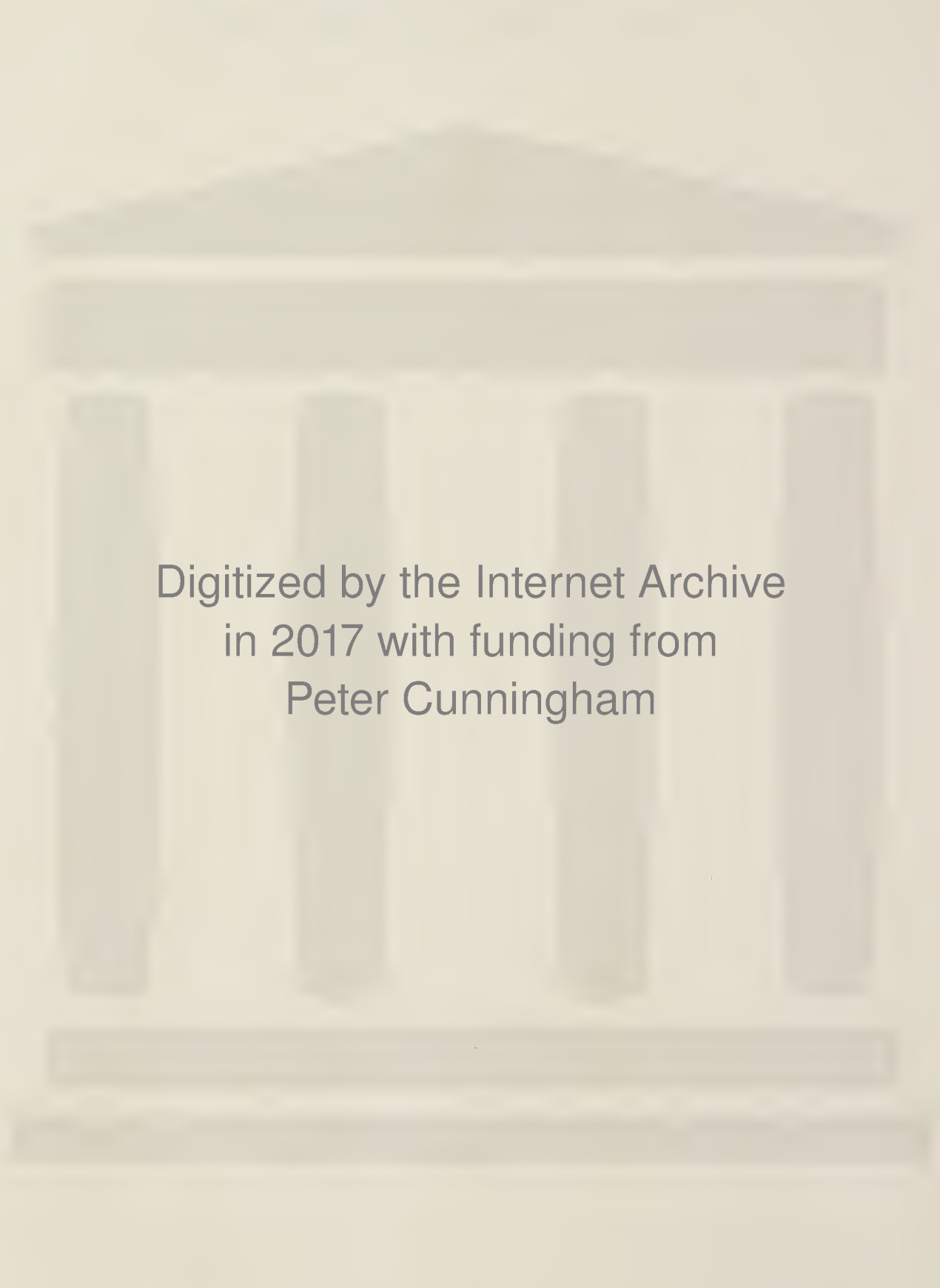


MARKETING COLLATERAL - 1993



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INPUT®

Systems Integrators —
The Market Is Changing
— Develop Your Strategy
To Succeed

Learn what's happening in
INPUT's new report

*Systems Integration
Trends and Forecasts
1992-1997*

Systems Integration Clients Are...

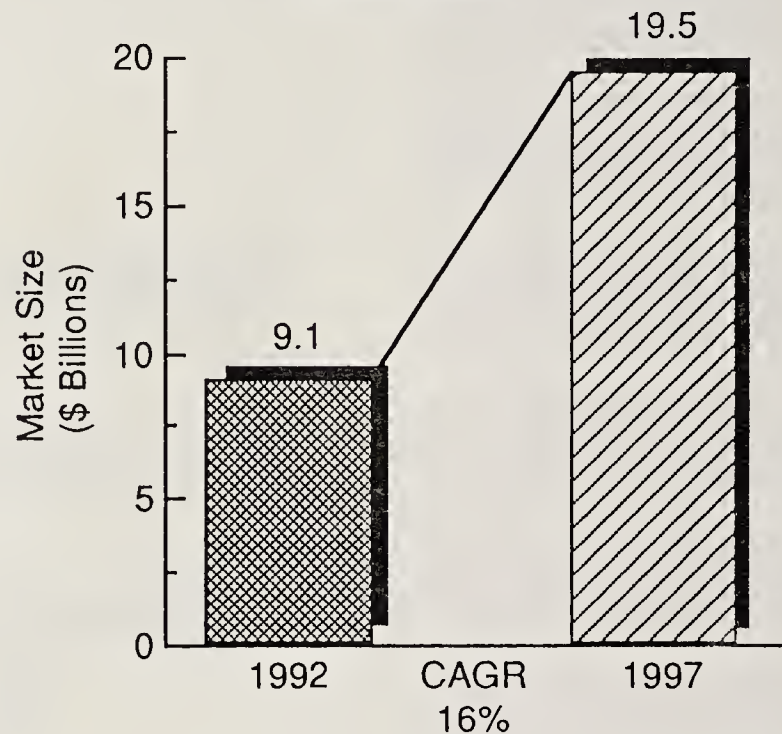
- Demanding quick payback on projects
 - Downsizing throughout their organizations
 - Adopting business re-engineering as a better solution
 - Relying more on outsourcing vendors for SI
-

Are the Systems Integration Vendors Ready to ...

- Provide business consulting as well as technical solutions?
 - Manage projects more cooperatively with clients?
 - Bid on operations functions?
-

INPUT's report, SI Trends and Forecast, 1992-1997, provides answers to these questions.

Systems Integration Market Forecast 1992-1997



Source: INPUT

Has the Economic Slowdown Completely Changed the Systems Integration Market?

INPUT's message on the systems integration market is clear — the recurring slowdown has hurt the market; the federal budget cutting continues to delay projects; but ...

... the growth of the SI sector is still one of the highest in the IT market overall. New opportunities are everywhere for the aggressive vendor. New options are available for the astute buyer.

This Report Forecasts and Analyzes the U.S. Systems Integration Market in 14 Vertical Markets

- | | | |
|--------------------------|--------------------------|-------------------------------|
| • Banking and Finance | • Health Services | • Transportation |
| • Discrete Manufacturing | • Retail Distribution | • Business Services |
| • Process Manufacturing | • Wholesale Distribution | • State and Local Governments |
| • Education | • Telecommunications | • Federal Government |
| • Insurance | • Utilities | |
-

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*INPUT helps vendors
and buyers of systems
integration to
understand their
options and make
profitable decisions.*

ORDERS

About INPUT's report, *Systems Integration Trends and Forecasts, 1992-1997...*

Please send me the report for \$2,995 (\$3,495 after February 19, 1993) —

California Clients: Please add
applicable sales tax on 70% of the
purchase price.

- ☐ Purchase order number _____
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☐ American Express card # _____ exp. _____

Signature _____

- ☐ Please bill me ☐ Please bill my company

INFORMATION ONLY

☐ *I'd like to see more. Please send me the report Abstract and Table of Contents.*

☐ *I have questions about how the conclusions pertain to my business.*

☐ *Please have a representative contact me.*

☐ *Please send information on INPUT's market forecast and analysis for the European market.*

About INPUT's services...

Please keep me informed of future studies on ...

- ☐ Outsourcing ☐ Systems Integration ☐ Downsizing ☐ Market Forecasts
☐ EDI/Electronic Commerce ☐ European/International Developments

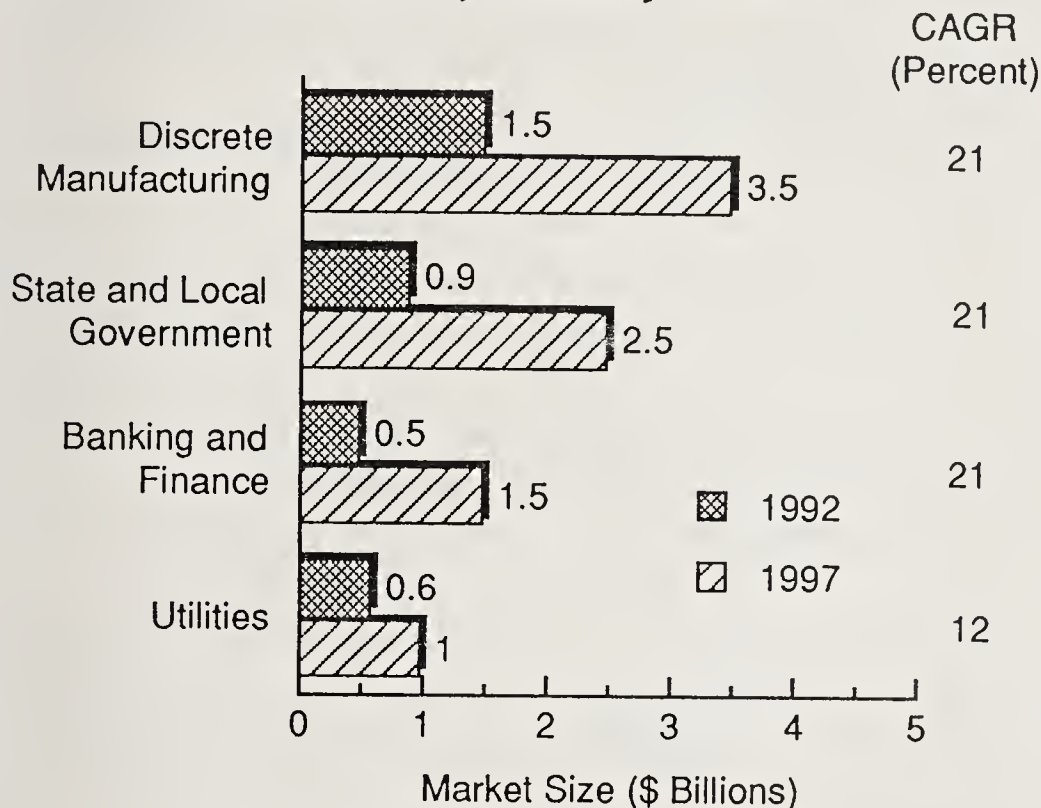
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Why You

INPUT could
be located in
a subject's
vertical
thoughtfully
and the co-
INPUT ideal
assessing the

Forecast by Industry Sector



Where Is the Activity in the Systems Integration Market?

The federal government is no longer the fastest growing buyer of systems integration services, but the state and local governments are releasing pent-up demand to provide a new growing market. Banking and discrete manufacturing continue to plan and implement new projects as they adapt to leaner times.

Why You Need This Study ...

INPUT continues its tradition of a thorough analysis of selected information services markets with this study. It provides a look at the market from the vantage point of 14 vertical industries — *a feature unique to INPUT*. It thoroughly analyzes the differences between the federal and the commercial markets and the forces behind them. INPUT identifies the leading SI market vendors and assesses their success.

Vendor Benefits

- See which of the 14 vertical industries are growing
- Decide where you want to focus your marketing activity
- Compare your performance to that of the market leaders
- Identify users' needs early in the marketing cycle
- Hear what marketing strategies are working and why

Buyer Benefits

- Identify the major vendors in your vertical market
- Hear how other buyers evaluate SI vendors
- See what business re-engineering options are available
- Decide what to do about downsizing your operations

Call, fax, or mail

your order

to your nearest

INPUT office

ABOUT INPUT

Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, objective analysis, and insightful opinions to support their plans, market assessments and technology directions particularly in computer software and services. Clients make informed decisions more quickly and save on the cost of internal research by using INPUT's services.

Call us today to learn how your company can use INPUT's knowledge and experience to grow and profit in the revolutionary IT world of the 1990s.

ANNUAL SUBSCRIPTION PROGRAMS

NORTH AMERICAN AND EUROPEAN MARKET ANALYSIS PROGRAMS

*Analysis of Information Services, Software, and Systems Maintenance Markets
5-year Forecasts, Competitive and Trend Analysis*

- 9 Categories of Software and Services
- 15 Vertical Markets
- 7 Cross-Industry Markets
- The Worldwide Market (30 countries)

U.S. FOCUSED PROGRAMS

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- EDI and Electronic Commerce
- IT Vendor Analysis
- U.S. Federal Government IT Procurements

EUROPEAN FOCUSED PROGRAMS

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- Network Management
- Customer Services

CUSTOM CONSULTING

Many vendors leverage INPUT's proprietary data and industry knowledge by contracting for custom consulting projects to address questions about their specific market strategies, new product/service ideas, customer satisfaction levels, competitive positions and merger/acquisition options.

INPUT advises users on a variety of IT planning and implementation issues. Clients retain INPUT to assess the effectiveness of outsourcing their IT operations, assist in the vendor selection process and in contract negotiation/implementation. INPUT has also evaluated users' plans for systems and applications downsizing.

INPUT WORLDWIDE

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(415) 961-3300 Fax (415) 961-3966

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INPUT[®]

Federal

Newsletter

ROUTE TO:

A Publication from INPUT's Federal Information Technology Procurement Program

Vol. I, No. 4

May, 1993

April Procurement Highlights

Air Force

DT IV V-01-150
The hearing for this protest took place in late March. A decision is scheduled for May 19, 1993.

DMRD 924 V-01-154
The protest of the award made to BDM was dismissed. The award stands with a value of \$362 million.

Defense

JIEO OMNIBUS V-04G-027
INPUT has received the current Logicon contract for this program.

IN THIS ISSUE:

April Procurement Highlights	1
"Hot Hotlines"	2
Defense Business Operating Fund	2
Recent DPAs	3
Recent Library Acquisitions	6
INPUT Notes	10

Navy

SNAP I V-03-113
The SNAP I program has been cancelled. It has been superseded by the NALCOMIS Phase II procurement. The maintenance is currently handled under the SNAP II procurement.

WISE V-03-143
The Workstation Information System Enhancement program has been cancelled due to a lack of funding and the delay in the award of the Desktop IV contract.

Agriculture

ISAP VI-05-034
Bids for the Integrated Systems Acquisition Project are due on July 29, 1993.

Justice

NCIC 2000 VII-10-024
The contract for the National Crime Information Center 2000 program was awarded on March 19, 1993 to the Harris Corporation with a value of \$46.9 million.

Continued on next page

Highlights ... from page 1

ITN VII-10-058
The RFP for the IAFIS Image Transmission Network will be released on April 26, 1993.

Transportation

Facilities Mgt. VII-11-048
An award for Facilities Management for the Transportation Computer Center was made on March 29, 1993 to Cincinnati Bell Information Systems with a value of \$40 million.

NISC VII-11-053
The National Airspace Implementation Support Contract was awarded on March 15, 1993 to General Electric Company with a value of \$121.6 million.

NASA

ECS VIII-15-085
The EOSDIS program was awarded to Hughes on April 1, 1993 with a value of \$766 million. ■

Defense Business Operating Fund

In an effort to operate more like commercial enterprise, the Defense Department has set up the Defense Business Operating Fund.

Recently GAO reviewed the Department of Defense's progress regarding the Defense Business Operations Fund. GAO found the following problems with the fund's current operations:

- DOD doesn't have policies for its governance
- DOD needs to define fund procedures
- DOD has partially implemented a new department-wide accounting system without fully determining its requirements

"Hot Hotlines"

INPUT has received several hotline calls regarding the following topics:

PEO STAMIS
PAR V-02-094
Army

The Program Executive Office of Standard Army Management Information Systems (PEO Army's STAMIS) intends to acquire off-the-shelf computers to support the Army's battlefield information systems. There has been no formal mention of this program in the CBD. Industry sources speculate that the RFP for this acquisition will be released in mid-May, 1993. This procurement has an expected value of \$50 to \$100 million.

ISAP
PAR VI-05-034
Agriculture

This program will provide a nationwide, integrated network serving up to 5,000 end users at over 1,200 sites. ISAP will include LANs and WANs, along with a mix of microcomputers, minicomputers, peripherals, software, and support services. ISAP has been estimated to be worth \$250 million over its 10 year system life. The RFP was released January 28, 1993. The bid due date was recently extended to July 29, 1993. ■

- DOD has not comprehensively assessed the skills and resources devoted to the fund
- DOD has problems with its financial and accounting systems
- Congress and auditors cannot rely on DOD financial reports
- Financial report inaccuracies are due to the lack of guidance
- DOD top management needs to make a substantial commitment to the fund's implementation ■

Recent DPAs

Agriculture

Ms. Marilyn G. Wagner
Deputy Director, Office of Operations
Department of Agriculture
Washington, DC 20250
(202) 720-2582

3/30/93 KMA-93-0138 Agriculture For resources in support of the National Computer Center in Kansas City, MO.

4/1/93 KMA-93-0174 Agriculture For the acquisition of resources in support of the Processed Commodities Inventory Management System Tri-Agency Project.

Mr. Herbert W. Kuehne
Acting Chief
Telecommunications Policy Division
Department of Agriculture
Washington, DC 20250
(202) 720-8624

3/25/93 KMA-93-0147 Agriculture For an exception to the mandatory use of consolidated local service for the Department of Agriculture in Richmond, Virginia.

The exception is approved for five years.

Army

Mr. David Borland
Director
United States Army Information Systems
Selection and Acquisition Agency
Department of the Army
2461 Eisenhower Avenue
Alexandria, VA 22331-0700
(703) 325-9760

3/26/93 KMA-86-0332(C) For the modification of the DPA KMA-86-0332 of 6/25/86 to acquire resources to support the Training Ammunition Management Information Systems and Army Modernization Training Automation Systems (TAMIS/AMTAS).

The request for extending the FTS2000 exemption granted on 9/17/92 by KMA-86-0332(B) was forwarded to Associate Administrator for FTS2000 for response.

Education

Mr. Cary Green
Director
Information Resources Management
Service
Department of Education
Washington, DC 20202
(202) 401-3200

3/31/93 KMA-91-0249(A) For the modification of DPA KMA-91-0249 of 5/8/91 to acquire ADP support resources with a short term contract for the Department of Education.

3/25/93 KMA-93-0043 For development of the Office Automation Project.

GSA has selected this as a high dollar, high visibility information system initiative for comprehensive review.

Continued on next page

DPAs ... from page 3

Federal Energy Regulatory Commission

Mr. George L. B. Pratt Executive Director
Federal Energy Regulatory Commission
Washington, DC 20426
(202) 208-0300

3/24/93 KMA-93-0167 For an Exception to Mandatory Local Services for the Federal Energy Regulatory Commission (FERC) at the New York Regional Office.

FERC may utilize the Purchase of Telephones and Services (POTS) contract to satisfy this requirement.

Health and Human Services

Mr. Thomas F. Joyce Director, Division of IRM Approvals Department of Health and Human Services 200 Independence Avenue, SW.
Washington, DC 20201
(202) 690-7311

3/25/93 KMA-93-0172 For the acquisition of support services for the Food And Drug Administration's National Center for Toxicological Research.

3/30/93 KMA-93-0173 Health and Human Services For the acquisition of support services for the Department of Health and Human Services's (HHS's) Transfer Income Model (TRIM2).

4/2/93 KMA-93-0187 Health and Human Services For the acquisition of resources to support the Parklawn Computer Center.

Housing and Urban Development

Mr. Donald C. Demitros
Director, Office of Information
Policies and Systems

Department of Housing and Urban
Development
Washington, DC 20410
(202) 708-0306

3/25/93 KMA-0266(A) For system development and maintenance support services for the Systems Engineering Project.

Interior

Mr. James P. Jadlos
Director, Office of Information
Resources Management
Department of the Interior
18th and C Streets, NW.
Washington, DC 20240
(703) 208-6194

4/2/93 KMA-92-0229(A) For the modification of DPAs KMA-93-0029 and KMA-92-0229, respectively provided on 11/27/92 and 4/3/92 to acquire support for the Distributed Information System II (DIS II) project.

Justice

Ms. Julie Jones
Acting Director
System Policy Staff
Justice Management Division
Department of Justice
Washington, DC 20530
(202) 514-4311

3/30/93 KMA-91-0454(A) For the modification of DPA KMA-91-0454 of 9/17/91 to acquire resources for the Positive Identification Technology Project.

3/31/93 KMA-92-0130(D) Justice For the modification of DPA KMA-92-0130(B) of 8/25/92 to acquire resources for the Department of Justice (DOJ).

3/30/93 KMA-93-0180 Justice For the acquisition of resources in support of the Department of Justice's (DOJ's) Immigration and Naturalization Service.

3/30/93 KMA-93-0184 Justice For the acquisition of resources in support of the Department of Justice's (DOJ's) Immigration and Naturalization Service.

3/31/93 KMA-93-0191 Justice For the acquisition of maintenance services at the Department of Justice's (DOJ's) Federal Bureau of Investigation.

NASA

Mr. Dietwald A. Gerstner
Director, IRM Policy Division
National Aeronautics and Space
Administration Headquarters, Code JTD
Washington, DC 20546
(202) 358-1379

3/29/93 KMA-93-0175 NASA For the acquisition of resources to satisfy requirements for the Goddard Space Flight Center in Greenbelt, Maryland.

Navy

Rear Admiral R. M. Moore
Commander of the Naval
Information Systems Management Center
Department of the Navy
Washington, DC 20360-5000
(703) 602-2103

3/30/93 KMA-93-0161(A) Navy For the interim acquisition of resources for telecommunications services at the Norfolk Naval Base, Norfolk, Virginia.

This service arrangement shall have operational compatibility with the Federal Telecommunications System 2000 inter-city voice network.

3/30/93 KMA-93-0039(B) Navy For the modification of DPA KMA-93-0039 of 12/7/92 for the acquisition of resources to support the Aviation Training Support System (ATSS) Phase II.

Transportation

Ms. Cynthia C. Rand
Director, Office of Information
Resource Management
Department of Transportation
400 7th Street, SW., Room 7107
Washington, DC 20590
(202) 366-9201

3/30/93 KMA-92-0606(A) Transportation For the modification of DPA KMA-92-0606 of 9/29/92 to acquire support services for the Federal Aviation Administration's Administrator for Information Technology.

4/2/93 KMA-93-0193 Transportation For the acquisition of resources to support the Federal Aviation Administration (FAA) Region/Center National Airspace System Logistics support mission.

4/1/93 KMA-93-0195 Transportation For the acquisition of support services for the United States Coast Guard's Omega Navigation System Center (ONSCEN) in Alexandria, Virginia.

Treasury

Mr. Thomas F. Kingery, Jr.
Acting Director, Office of Information
Resources Management
Department of the Treasury
Treasury Annex Building, Room 3190
Washington, DC 20220
(202) 622-1507

3/30/93 KMA-90-0069(F) Treasury For an exception to the mandatory use of consolidated local telephone service for Internal Revenue Service Wichita District Headquarters offices at 271 West 3rd Street, Wichita, Kansas.

Treasury will pay termination liability charges that will be imposed when service is disconnected from GSA's consolidated system.

Continued on next page

DPAs . . . from page 5

3/26/93 KMA-93-0186 Treasury For an exception to the mandatory use of consolidated local service for the Internal Revenue Service Cincinnati Service Center in Covington, Kentucky.

This DPA authorizes the acquisition of the currently installed telephone system at this location.

Ms. Jane L. Sullivan
Director, Office of Information
Resources Management
Department of the Treasury
Treasury Annex Building, Room 3190
Washington, DC 20220
(202) 622-1599

4/5/93 KMA-93-0153 For the acquisition of resources for use at the Customs Service Data Center, currently located in Newington, Virginia.

The facilities management contract shall be limited to seven years, and all other contracts awarded under this DPA are limited to five years. ■

Department: GAO
Document Title: Composite Health Care System: Outpatient Capability
Document Type: GAO Report
INPUT Reference #: 1100.15

Department: GAO
Document Title: Air Force ADP: Lax Contract Oversight Led to Waste
Document Type: GAO Report
INPUT Reference #: 1100.16

Department: GAO
Document Title: Cellular Service Corporation
Document Type: GAO Testimony

Department: GAO
Document Title: Asset Management System
Document Type: GAO Report

Department: GAO
Document Title: Pesticides: Information Systems Improvements
Document Type: GAO Report
INPUT Reference #: 1100.17

Department: GAO
Document Title: Veterans Benefits: Acquisition of Information Resources
Document Type: GAO Report
INPUT Reference #: 1100.18

Recent Library Acquisitions

Reference Documents

Department: AFCEA
Document Title: The Next Four Years: 7th Annual Forecast to Industry
Document Type: Report

Department: GAO
Document Title: FTS 2000 GSA's Price Redetermination
Document Type: GAO Report

Department: GAO
Document Title: GAO Transition Series
Document Type: Reference

Department: GAO
Document Title: NASA Issues
Document Type: GAO Report

Department: GAO
Document Title: GAO High-Risk Series
Document Type: Reference

Department: GAO
Document Title: Status of Open Recommendations

Document Title: The Government Contractor's Glossary
Document Type: Reference

Document Title: The United States Government Manual 1992-1993
Document Type: Reference

Procurement Documents

Department: Agriculture
Document Title: Report of the Secretary of Agriculture 1992
Document Type: Reference

Department: Agriculture
Document Title: Information Strategic Planning—The Cornerstone for Managing Change
Document Type: Reference

Department: Air Force
Document Title: Software/Hardware and Support for AFSPACECOM
Related PAR: Software/Hardware & Support for AFSPACE, V-01-188
RFP #: F04606-93-0025
Document Type: RFP

Department: Army
Document Title: Integrated Library System
Related PAR: V-01-085
RFP #: DABT60-93R-0012
Document Type: RFP
INPUT Reference #: 2130

Department: Army
Document Title: Services Required for SIDPERS-3
Related PAR: V-02-082
Document Type: Contract
INPUT Reference #: 32016.1

Department: Army
Document Title: Trojan Special Purpose Integrated Remote Intelligence
Related PAR: TROJAN SPIRIT II, V-02-091
RFP #: DAAB10-92-R-0086
Document Type: RFP
INPUT Reference #: 2129

Department: Defense
Document Title: Department of Defense Telephone Directory
Document Type: Directory
INPUT Reference #: 02800.1

Department: Defense
Document Title: JIEO Omnibus
Related PAR: JIEO OMNIBUS, V-04G-027
Document Type: Contract
INPUT Reference #: 32019.1

Department: Defense
Document Title: Technical Reference Model for Information Management
Document Type: Reference Model
INPUT Reference #: 2450.1

Department: Defense
Document Title: Defense Information Systems Agency Annual Report 1991
Document Type: Annual Report

Department: Defense
Document Title: Defense Technology Conversion
Document Type: Report

Department: Defense
Document Title: GFE Scientific Computing Modernization
Related PAR: GFE Scientific Computing Modernization, V-04B-005
RFP #: DNA001-93-R-0015
Document Type: RFP

Department: Defense
Document Title: Graphic Systems Support Software
Related PAR: Graphic System Support Software
RFP #: DCA100-93-R-0078
Document Type: RFP

Continued on next page

Acquisitions...from page 7

Department: Defense
Document Title: D/SIDDOMS
Related PAR: SIDDOMS, V-04E-007
RFP #: MDA903-93-R-0036
Document Type: RFP

Department: Defense
Document Title: Management of DOD
Interoperability Efforts for C3
Document Type: Report

Department: Energy
Document Title: Maintenance Management
Program
Document Type: Reference
INPUT Reference #: 6001

Department: Energy
Document Title: Analysis of Energy Data
Collection
Related PAR: Analysis of Energy Data
Collections, VI-07-110
RFP #: DE-RP01-93EI22832
Document Type: RFP, Bidders list
INPUT Reference #: 6150.1

Department: Energy
Document Title: Telephone System Service for
Energy for Nevada Operations
Document Type: Contract
INPUT Reference #: 32021.1

Department: Executive Office of the President
Document Title: OMB CIRCULAR A-130
Document Type: Reference
INPUT Reference #: 8001

Department: FDIC
Document Title: The FDIC Information
Resource Plan
Document Type: IRM Plan

Department: GSA
Document Title: Proposed Amendments to the
Rules of Procurement, GSBCA
Document Type: Procedure
INPUT Reference #: 12006.3

Department: GSA
Document Title: Service to the Citizen—
Project Report
Document Type: Project Report
INPUT Reference #: 12006.3

Department: Health and Human Services
Document Title: Maintenance on Government
Owned IBM Equipment
Related PAR: VII-08-068
RFP #: SSA-RFP-94-1412
Document Type: RFP

Department: Health and Human Services
Document Title: Data Processing Support
Services
Document Type: Contract
INPUT Reference #: 32025.01

Department: Housing and Urban Development
Document Title: Telephone Directory
Document Type: Directory

Department: Labor
Document Title: Labor Hour Contract—
Audit Services
Document Type: CONTRACT
INPUT Reference #: 32032.1

Department: NASA
Document Title: CAPES
Related PAR: CAPES VIII-15-116
Document Type: RFC, Bidders List
INPUT Reference #: 18400.1

Department: NASA
Document Title: Goddard Space Flight Center
Phone Directory
Document Type: Directory

Department: NASA
Document Title: Lewis Research Center
Telephone Directory
Document Type: Directory

Department: NASA
Document Title: Langley Research Center
Phone Directory
Document Type: Directory

Department: NASA
Document Title: NASA Headquarters Directory
Document Type: Directory

Department: NASA
Document Title: Goddard Annual Procurement
Report FY 1992
Document Type: Report

Department: NASA
Document Title: Research and Technology
1991 Goddard SFC
Document Type: Report

Department: NASA
Document Title: CAPES
Related PAR: CAPES, VIII-15-116
RFP #: NAS3-489673
Document Type: RFP, Draft RFP

Department: NASA
Document Title: Doing Business with NASA
Document Type: Information Pamphlet

Department: NASA
Document Title: SETARS
Related PAR: SETARS, VIII-15-114
RFP #: 3-349-555
Document Type: RFP, BML, Amendment,

Department: NASA
Document Title: Acquisition Forecast FY 93
for NASA
Document Type: Report

Department: NASA
Document Title: Research and Technology

Objectives and Plans Summary
Document Type: Report

Department: National Security Agency
Document Title: A Guide to Understanding
Security Modeling
Document Type: Reference

Department: National Security Agency
Document Title: A Guide to Procurement of
Trusted Systems
Document Type: Reference

Department: Navy
Document Title: Automated Tape Cartridge
Library System
Related PAR: Tape Cartridge Library System,
V-03-129
RFP #: N66032-93-R-0020
Document Type: RFP
INPUT Reference #: 02231

Department: Pension Benefit Guaranty
Document Title: IRM Plan Pension Benefit
Guaranty Corp.
Document Type: IRM Plan 1992-1996

Department: Transportation
Document Title: FAA Organizational Directory
Document Type: Reference

Department: Transportation
Document Title: The Computer Resources
Nucleus
Related PAR: CORN
Document Type: Contract and Amendments
INPUT Reference #: 32055.1

Department: Transportation
Document Title: Data Network Contract
Related PAR: Data Network, VII-11-065
RFP #: DTCG23-93-R-TMAC04
Document Type: RFP
INPUT Reference #: 24103

Continued on next page

Acquisitions...from page 9

Department: Veterans Affairs
Document Title: Telephone Directory—
Central Office
Document Type: Directory
INPUT Reference #: 27004

Department: Veterans Affairs
Document Title: Forecast of Contracting
Opportunities
Document Type: Reference
INPUT Reference #: 27002

Department: Veterans Affairs
Document Title: Doing Business with the
Veterans Affairs
Document Type: Reference
INPUT Reference #: 27003

INPUT Reports

Document Title: European Software and
Service Market—1992-1997
Document Type: Report

Document Title: Outsourcing Network
Management and Operations, Europe
Document Type: Report

Document Title: User Satisfaction in Europe—
Midrange Systems 1992
Document Type: Report

Document Title: Methodologies for IT
Downsizing Document
Type: Report ■

INPUT Notes

Dialog Charges

INPUT utilizes Dialog, an on-line database service, in order to answer many of your questions. In order to keep our Dialog expenses at a reasonable level, we've been forced to pass some of these charges along to our clients.

Each client is allowed up to \$100 of Dialog usage per month. Clients whose questions require more than \$100 of Dialog for a month are billed for the entire Dialog charge. This policy was very effective throughout 1992. If you have any questions or suggestions regarding this policy, please let us know.

Data Base Training

INPUT is continuing its monthly client training program. Classes are held the first Tuesday of every month from 1 p.m. to 5 p.m. Our next class will take place on June 8, 1993. We will conduct PAR database training from 1 p.m. to 2 p.m. and FAIT database training from 2 p.m. to 5 p.m. All clients are welcome. Please R.S.V.P. to Matt Johnson (703) 847-6870 by May 25th for our June class.

INPUT also offers specialized training and orientations at client sites. Please contact Chris Forest at (703) 847-6870 to set up an on-site orientation or training session.

INPUT Staff Announcements

INPUT is happy to announce the addition of Bob Deller to our Washington staff. Bob is managing our Federal Market Analysis Reports Program. He is also overseeing federal custom consulting and providing senior level support to the hotline.

Bob comes to us from Selbre, Inc. where he was the Director of Market Research. He also writes the highly regarded "FedWatch" column for GCN.

Bob, welcome to our staff!

INPUT would like to welcome J.P. Richard back to the office. J.P. is Vice President of the Vienna office. He has been recovering from back surgery.

Welcome back, J.P! ■

INPUT Calendar of Events

MAY

4 Client Training

JUNE

8 Client Training

24-25 INPUT Federal Conference

INPUT Federal Conference

Now is the time for reassessing your prospects in the federal marketplace. Over the next five years, a lot of changes will take place as the new administration takes hold and as the DoD restructuring progresses. The continually growing IT budget is shifting towards civilian agencies. New technologies promise to deliver more power and flexibility to the users through downsizing, outsourcing, and re-engineering.

Vendors determined to take advantage of the opportunities created by the new federal marketplace will attend this conference. Don't be left behind! Attend INPUT's 1993 Federal Information Technology Conference and gain new insights from agency representatives, vendor executives, and INPUT experts!

June 24 & 25
Tyson's Corner Marriott
Vienna, VA

To register, call Jean Beaver today at
(703) 847-6870.

■ ABOUT INPUT

Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, objective analysis and insightful opinions to support their plans, market assessments and technology directions, particularly in computer software and services. Clients make informed decisions more quickly and save on the cost of internal research by using INPUT's services.

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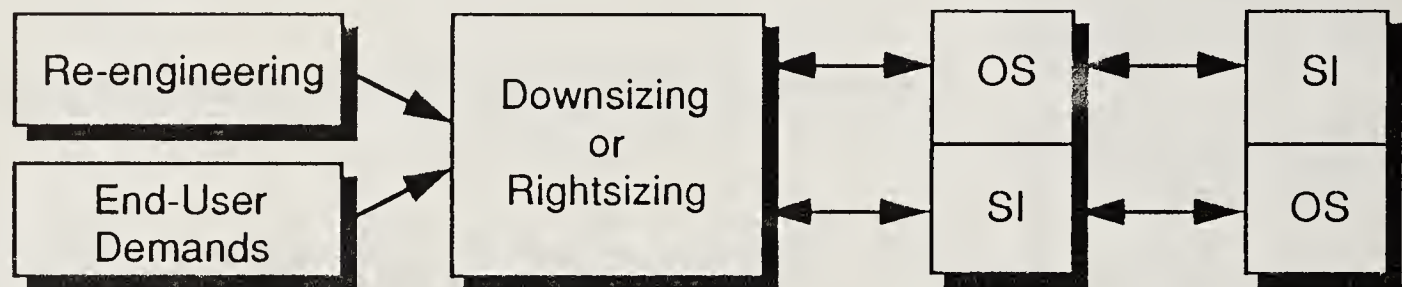
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*COMPREHENSIVE ANALYSIS
OF THE
INFORMATION
SERVICES INDUSTRY*

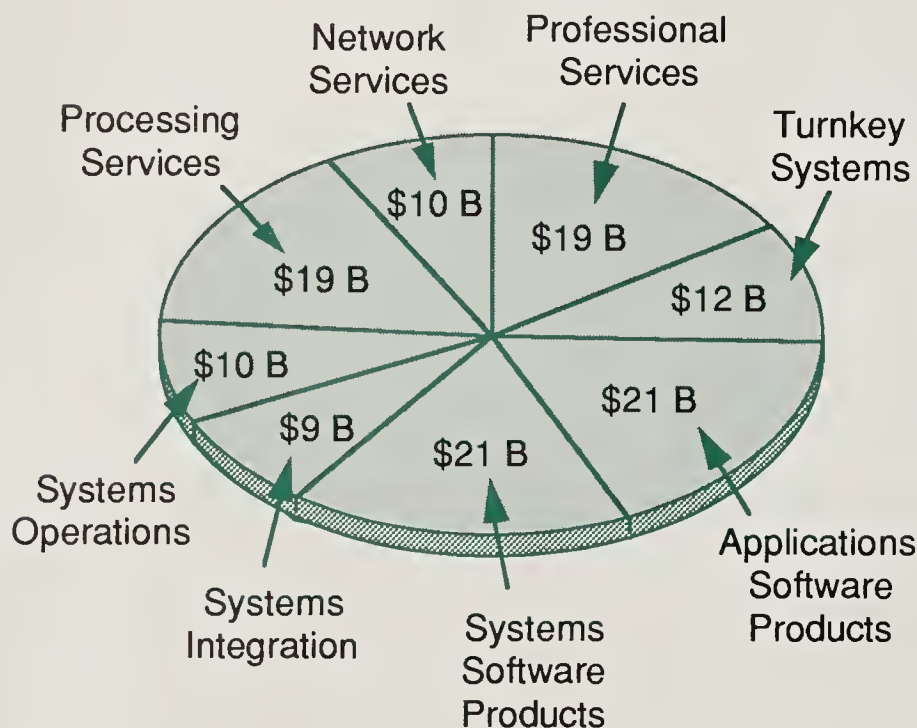
SEVENTEENTH ANNUAL STUDY

“**T**his is the focused information services study against which all other analyses are measured. Its publication is eagerly awaited by marketers, strategic planners, chief executives, analysts, and members of the press who have to know what's going on in our business.”

INPUT's U.S. INFORMATION SERVICES INDUSTRY REPORT!

The *U.S. Information Services Industry Report* from INPUT is now available to order! Containing the most useful analysis of this ever changing market that information professionals can buy, the 1993 report follows the path pioneered by earlier editions:

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- Competitive Trends
- General Business Climate
- Conclusions and Recommendations

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- Processing Services Market, 1992-1997
- Processing Services Vertical Markets
- Processing Services Market Trends and Issues
- Leading Processing Services Vendors

Network Services Market Analysis

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- Network Services Vertical Markets
- Network Services Market Trends and Issues
- Leading Network Services Vendors

Professional Services Market Analysis

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The report is designed from the ground up to be a single-volume resource you can use to answer the questions that will affect your success in the marketplace:

- Where are the biggest growth opportunities in the industry and what are the forces driving them?
- How long term are these forces and the opportunities they create?
- How are the growth rates for various market segments changing over time?
- What are the implications for the competitive environment?
- What impacts will the emergence of truly global information services companies have in the 1990s?
- Which vertical markets provide the greatest revenue opportunity?

Only INPUT's *U.S. Information Services Industry Report* gives you answers to these large-scale questions. Answers that can be trusted. Analyses and forecasts of sectors and markets — built on a proven methodology and correlated for accuracy.

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- What are the potential impacts of user strategies such as outsourcing, downsizing, and re-engineering?
- How can you use the demand for outsourcing to forge long-term relationships with users in the areas of applications management, applications maintenance, and transition management?

- How will the actions of key vendors like EDS, Andersen Consulting, IBM, or Systematics change the competitive environment in systems integration or systems operations?
- How fast is each delivery mode growing? What share of the total market is accounted for by each mode?
- How are increasing complexity, standards, workstation power, and the demand for custom solutions affecting the applications software arena?
- How can systems integrators respond to increasing systems complexity, strategic alliances, large-vendor competition, and the shift away from professional services?

And many more questions whose answers can have significant impact on your bottom line.

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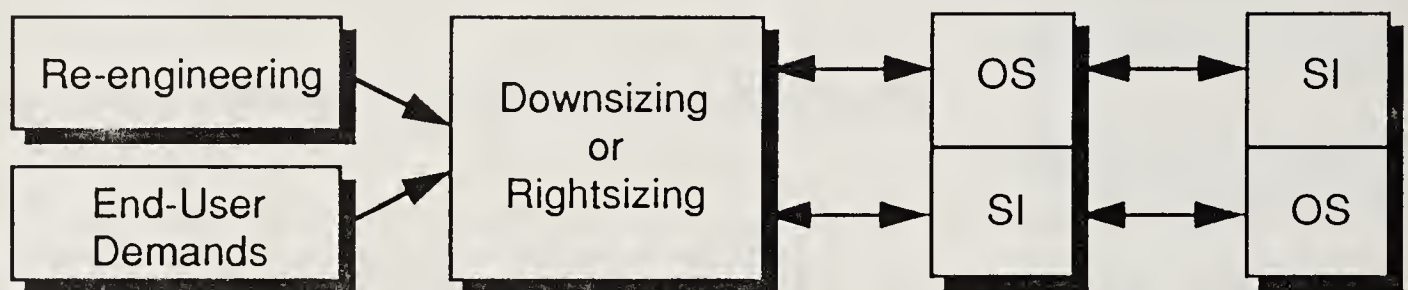
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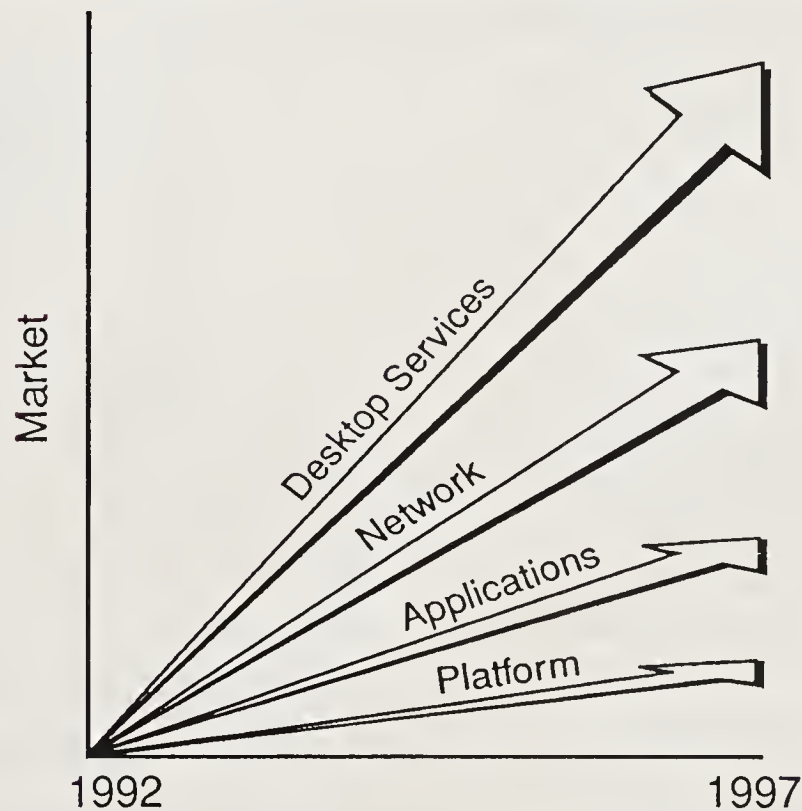
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Changing Outsourcing Options



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answers this important question
and more!

Outsourcing Is Changing Its Stripes ... Do You Know How to Benefit From these Changes?

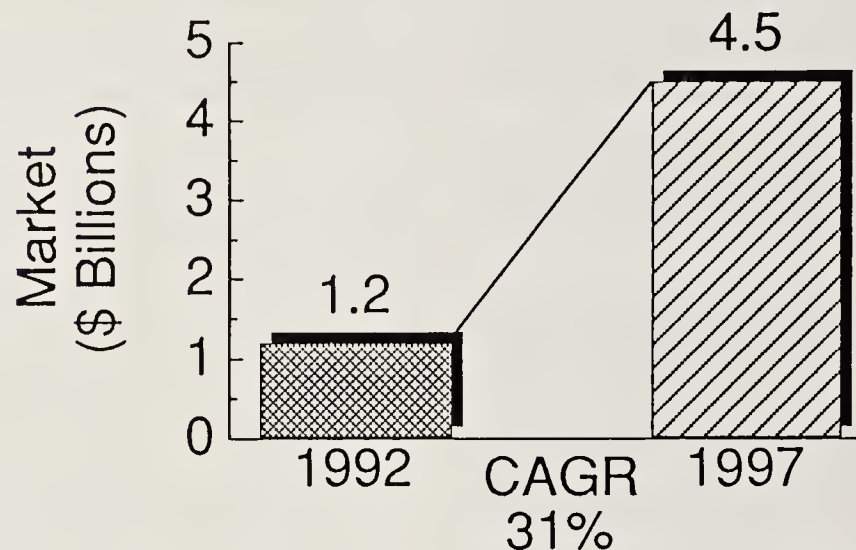
Vendors

- Clients want you to take on additional responsibilities
 - Prospects are less willing to sign long-term contracts
 - You need to help the client downsize operations
 - It's no longer just a data center management problem
 - You must be ready to do systems integration also
-

Buyers

- As you downsize, the outsourcing vendor can help
 - Your PC/workstation management problem is worse than your data center management problem
 - Take advantage of outsourcing to make the transition to a new, downsized environment
 - Just how important is that applications software to your business?
-

U.S. Desktop Services Market



Source: INPUT

Vendor Benefits

- Know what the market leaders are doing
 - Learn how users evaluate you
 - Find out how the market is expanding to new options
 - Assess how well you can change to meet demands
 - See where the market is going in your targeted markets
-

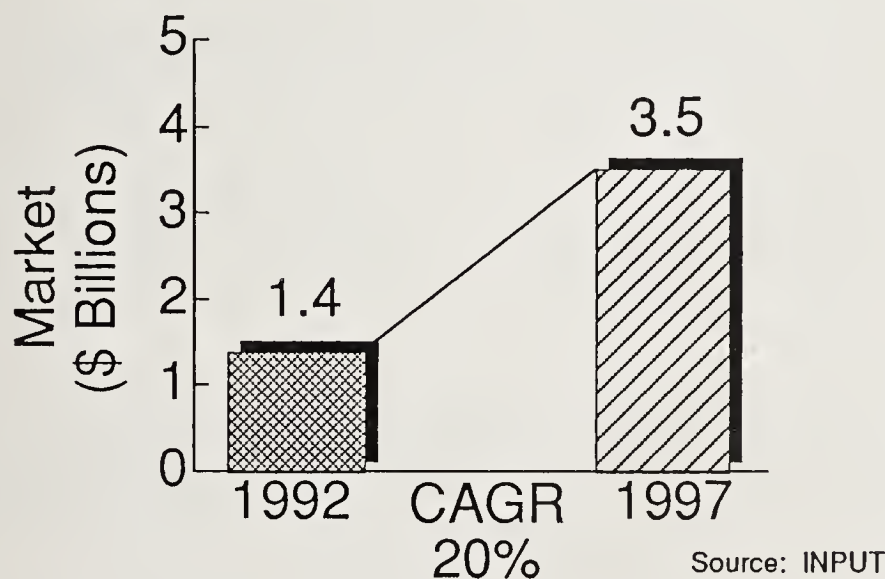
User Benefits

- Understand just what you can ask vendors to do
- Learn how early outsourcing arrangements are changing
- Identify the top vendors in your industry
- Gain insight into how to use vendors to make the transition
- Consider how the outsourcing arrangement can help you better manage resources

Whether Vendor or Buyer,
Participate in the
Downsizing Revolution Today ...

Use Outsourcing to Effectively Meet the Empowered Users'
New Demands ...

U.S. Network Management Market, 1992-1997



Buyers

- Let a vendor manage the PC inventory nightmare
- Call in experts to manage the "hot-line" function

Vendors

- Act as a change agent by providing transition support
- Set up to provide local support across the country

**Outsourcing Options Increase and New Choices
Promise to Make the Market Grow Faster**

INPUT's report, *Information Systems Outsourcing Market Opportunities, 1992-1997*, identifies a major shift in outsourcing for the first time this year. Traditional platform and applications operations arrangements continue to grow, but the major new growth is in network management and desktop services.

The downsizing revolution is causing users to demand new services to connect and manage all the distributed power that has been given to the user organizations. Outsourcing vendors are quick to respond to the need.

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- Downsizing (vendor and user)
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- ★ Understand market size and growth expectations — and how new budget priorities will affect federal spending across IT categories.

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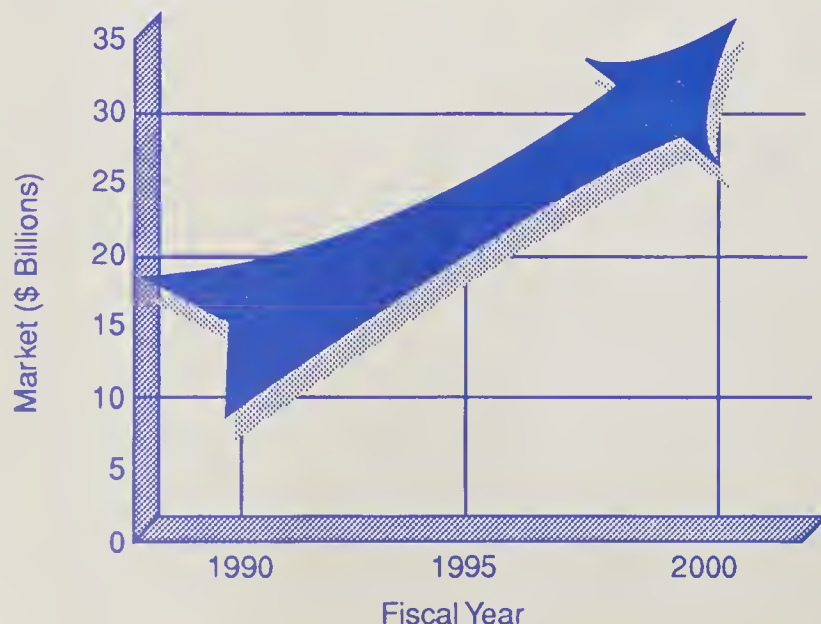
INPUT's 1993 FEDERAL INFORMATION TECHNOLOGY CONFERENCE

Now is the time for reassessing your prospects in the federal marketplace. Over the next five years, a lot of changes will take place as the new administration takes hold and as the DoD restructuring progresses. The continually growing IT budget is shifting towards civilian agencies. New technologies promise to deliver more power and flexibility to the users through downsizing, outsourcing, and re-engineering.

Vendors determined to take advantage of the opportunities created by the new federal marketplace will attend this conference.

Don't be left behind! Attend INPUT's 1993 Federal Information Technology Conference and gain new insights from agency representatives, vendor executives, and the INPUT experts!

Federal Information Technology Market



THURSDAY, JUNE 24

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- **FEDCAC—IT Procurement Experts** — Steve Meltzer, Director of Federal Computer Acquisition Support Division, GSA
- **CIM Update** — Mike Mestrovitch, Director of Office of Technical Integration
- **Service to the Citizen** — Frank McDonough, Assistant Commissioner, Office of Federal Information Resources Management, GSA
- **Commerce Initiatives for IT Industry** — Commerce
- **JCALs and JEDMICS** — DoD
- **Imaging Applications in the Federal Market** — Treasury

FRIDAY, JUNE 25

- **EDI in the Air Force** — Peg Arnold, Chief of the Government Acquisition through Electronic Commerce Initiative Team
 - **Information Technology Under the Clinton Administration** — Executive Office of the President
 - **Client/Server Computing Gains Acceptance Among Federal Users** — INPUT Representative
-

Dear Colleague:

INPUT is pleased to announce its

1993 FEDERAL INFORMATION TECHNOLOGY CONFERENCE
CHANGING PRIORITIES — CHANGING OPPORTUNITIES

to be held June 24th and 25th at the Tyson's Corner Marriott in Vienna, Virginia.

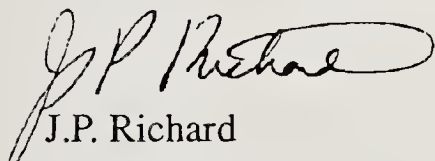
President Clinton and Vice President Gore have both emphasized a greater role for information technology in providing support to federal programs. INPUT believes this translates into continued growth in business opportunities for vendors who can navigate the complex environment of priorities and budgets which are shifting under the new administration.

This year's conference continues its popular forecast of the federal information technology market. Presenting this segment of the conference program is Dr. Robert Deller, who recently joined INPUT as manager of the federal market research program. Dr. Deller's profile is enclosed.

We believe this conference is a must for vendors who are seeking ways to maximize their effectiveness in the federal information technology market. A full program and slate of excellent speakers will help guide your strategic planning.

To learn about the government's shifting priorities—and your opportunities—attend INPUT's conference. *Mark your calendar today!*

Best Regards,



J.P. Richard
Vice President

Enc.

ROBERT W. DELLER

FEDERAL PROGRAM MANAGER



PROFILE

CAPABILITIES

- Dr. Deller has over 25 years of experience in the information technology industry as a federal government official, U.S. government information technology market analyst and consultant, and international consultant.
- Dr. Deller is responsible for INPUT's federal program of information technology market research, custom studies, and consulting services.

BACKGROUND

- Prior to joining INPUT, Dr. Deller was Director of Market Research at Selbre Associates, Inc., with responsibility for research market data base development, custom consulting, and preparation of federal government agency profiles.
- Previously, he consulted independently to several market research firms developing market analysis reports and federal agency profiles.
- Earlier he served as Vice President of Research for Information Strategies Group where he directed information technology and market analysis services for federal government managers and information technology vendors.
- Before his market research positions, Dr. Deller was Deputy director for Information Systems at the U.S. Food and Drug Administration.

EDUCATION

- Ph.D. in Public Administration, The American University, Washington, D.C.
- M.P.A. (Management Information Systems), The American University, Washington, D.C.
- B.S. (Education), Towson University, Baltimore, Maryland

OTHER

- Dr. Deller holds a professional Certificate in Data Processing (C.D.P.).
- He is on the adjunct faculty at The American University's School of Public Affairs.
- He is a member of the Data Processing Management Association and the American Society for Public Administration.
- He is an international consultant to Aid for International Development.
- Dr. Deller Regularly contributes a column on federal procurement issues to *Government Computer News*.

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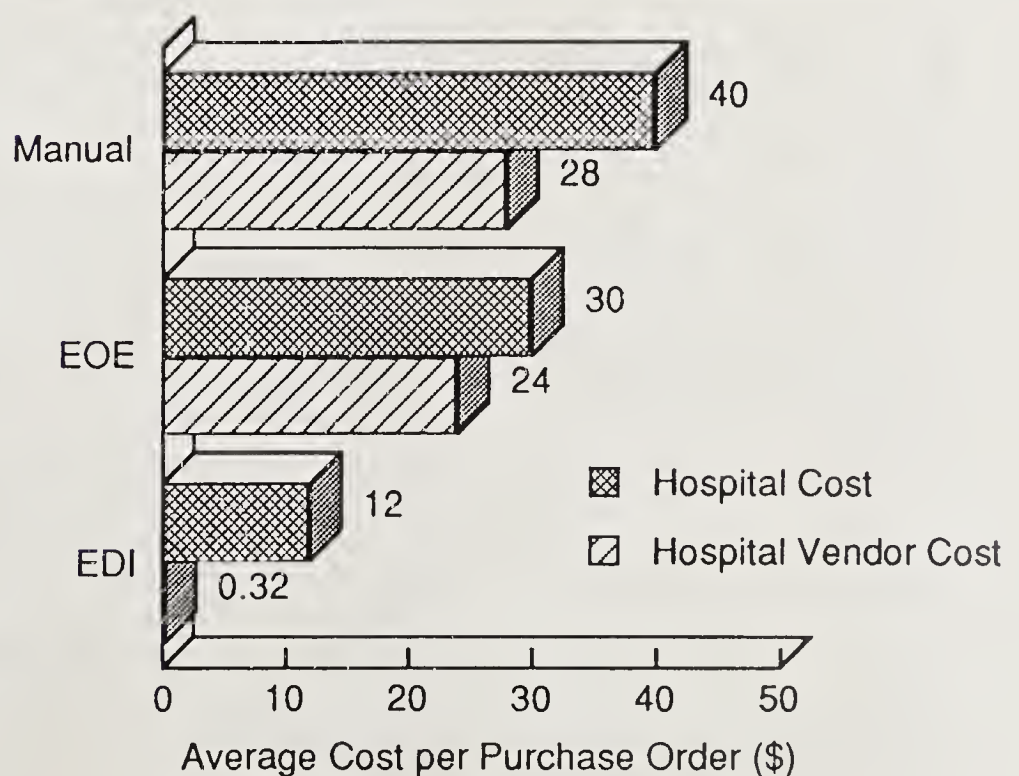
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Find out why standard EDI systems are now more preferred by hospitals and hospital suppliers than proprietary systems.

- What are the total number of claims filed by hospitals, pharmacies, dental and physician offices in the U.S.? What percentage are electronic? Which are growing the fastest?
- What companies today are providing network services to the health care industry?
- How are government mandates and industry initiatives driving adoption of EDI and electronic commerce?
- How is government legislation impacting the use of electronic network systems by the health care industry?

Electronic commerce in health care refers to the use of inter-organizational networks that connect computer systems, which enable health care community participants (including providers, insurance payors, suppliers and others) to efficiently coordinate their activities.

The report examines the four most critical areas where electronic network systems have been deployed and are currently undergoing an expansion of use:

Medical Claims Processing – from enrollment and eligibility checking to claims submission — including hospitals, physician offices, dental offices and pharmacies.

Medical Claims Payment – from government and private payor to provider.

Procurement of medical, surgical, pharmaceutical and dietary suppliers by hospitals.

Utilization Review – preferred-provider organization management systems and other related information services involving networks.

For these applications, INPUT examines the issues, volumes of activity (including the number of claims made yearly by each health care player and the percentage of those electronically filed), growth of activity volume through 1997, the companies providing information services and software which enable expansion, user organizations leading the way and their experiences (particularly in regard to cost savings and the use of standardized systems as opposed to proprietary systems) and company background on selected leading information service and software firms.

INPOT analyzes the extent to which other related information systems are used in the health care community. Smart cards, E-mail, imaging systems, computerized patient records, and voice recognition are some important technologies in the electronic environment of health care commerce. The study assesses the extent to which these technologies are deployed, and sets forth their roles in the overall electronic infrastructure.

The focus of the study is the U.S. health care industry. Canadian, European and Japanese health care industries are touched upon for comparison purposes only.

Recent initiatives, consortia and legislation, designed to ease the U.S. health care crisis, are also covered in this comprehensive study.

Electronic Commerce in Health Care offers users of electronic information systems and system vendors the opportunity to take a giant step toward resolution of the health care crisis.

Available only from INPUT, this study provides concrete empirical data that quantifies and characterizes the economics of truly streamlining health care delivery through electronic commerce.

Electronic Commerce in U.S. Health Care: 1992-1997

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Abstract

Electronic commerce in health care refers to the use of inter-organizational networks that connect computer systems and that allows health care community participants (including providers, insurance payors, suppliers and others) to coordinate their activities. In particular, this report examines the four most critical areas where electronic network systems have been deployed and are currently undergoing an expansion of use: (1) Medical Claims Processing — from enrollment, eligibility checking, to claims submission and including hospitals, physician offices, dental offices, and pharmacies. (2) Medical Claims Payment — from government and private payor to provider. (3) Procurement of medical-surgical, pharmaceutical and dietary supplies for hospitals. (4) Utilization review, preferred-provider organization management systems and other related information services involving networks.

For these applications, INPUT reviews what the issues are, what the volumes of activity are (including the number of claims

made per year by each health care player and what percentage are electronically filed), what the volumes of activity will grow to be by 1997, what companies are providing information services and software to enable the expansion of these applications, what user organizations are leading the way and what their experiences have been particularly in regard to cost savings and the use of standardized systems as opposed to proprietary systems, and what is the background on some of the leading information service and software companies.

In our analysis, we also discuss the extent to which other related information systems are being used in the health care community. Smart cards, e-mail, imaging systems, computerized patient records, and voice recognition are some important technologies in the electronic environment of health care commerce. We assess the extent to which these are being deployed and what their roles are in the overall electronic infrastructure.

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- F. First Data Corporation
- G. GTE Health Systems Incorporated
- H. Healthcare COMPARE Corporation
- I. BAX Healthcare Systems
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- K. Medstat Systems, Inc.
- L. National Data Corporation
- M. National Electronic Information Corporation
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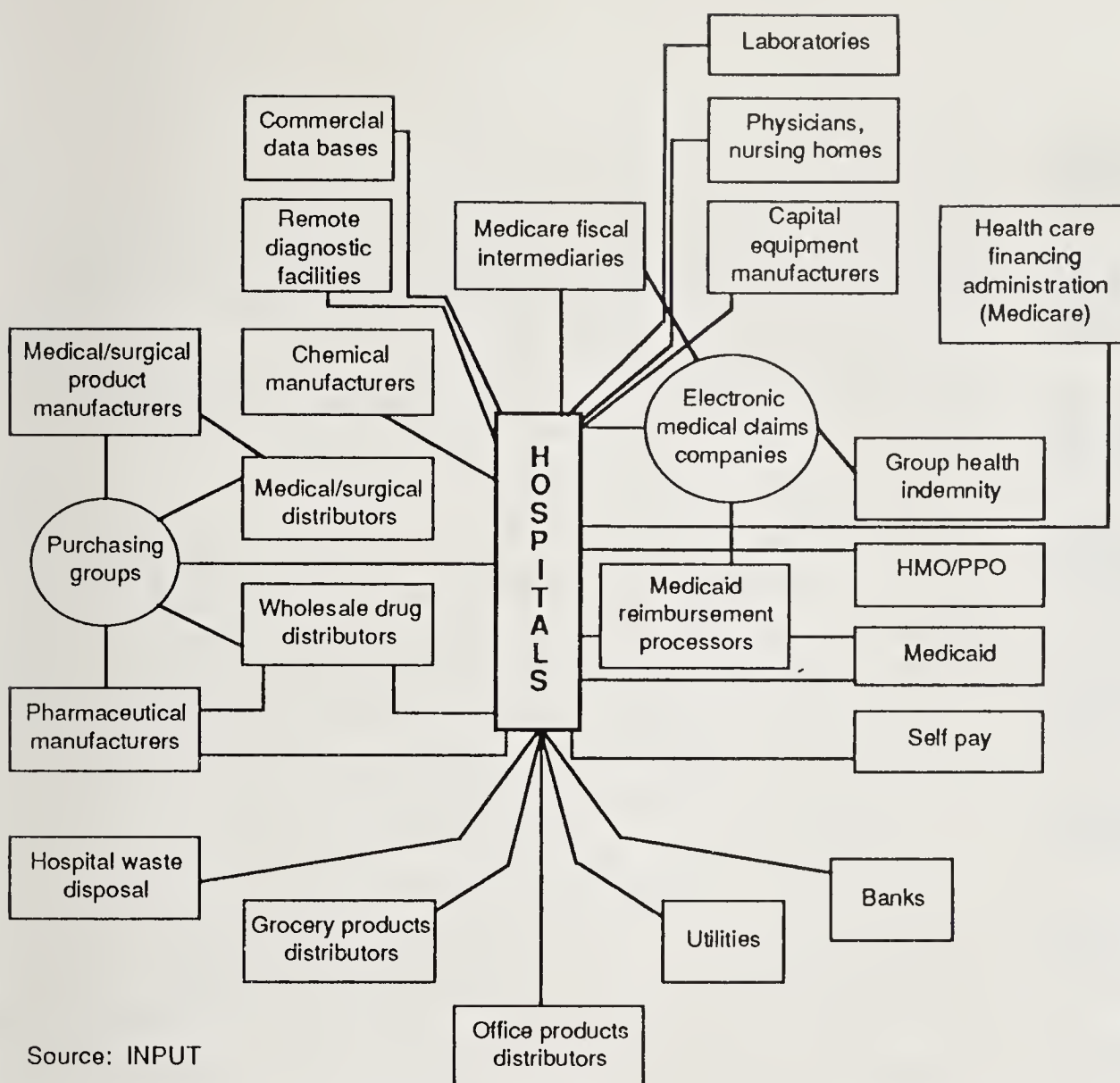
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The Health Care Trading Community

Source: INPUT

Only with complete understanding of the situation parameters can effective action be taken—INPUT's study provides the solid and sound knowledge base that defines these parameters.

Hospitals, clinics, private physician offices, insurance companies and other health care players will:

- Know exactly how EDI and similar systems have saved hundreds of thousands of dollars in hospital administration expense.
- Understand the real benefits of adopting standard medical claims and supply procurement systems versus vendor-supplied proprietary systems.

Vendors of information services and software will be able to:

- Make informed decisions based on INPUT's proven market research methodology.
- Sharpen understanding of competitors and competitive environments for information services in the health care arena.
- Know who won recent contracts and capabilities of specific vendors.
- Know the effects of governmental and quasi-governmental mandates.
- Know where the opportunities lie.

- Comprehend the full breadth of market opportunities, be able to attack those that are most viable for their firm and target market share with full knowledge of market size.

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How Big Is The Market For Software And IT Services In ...

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- Latin America
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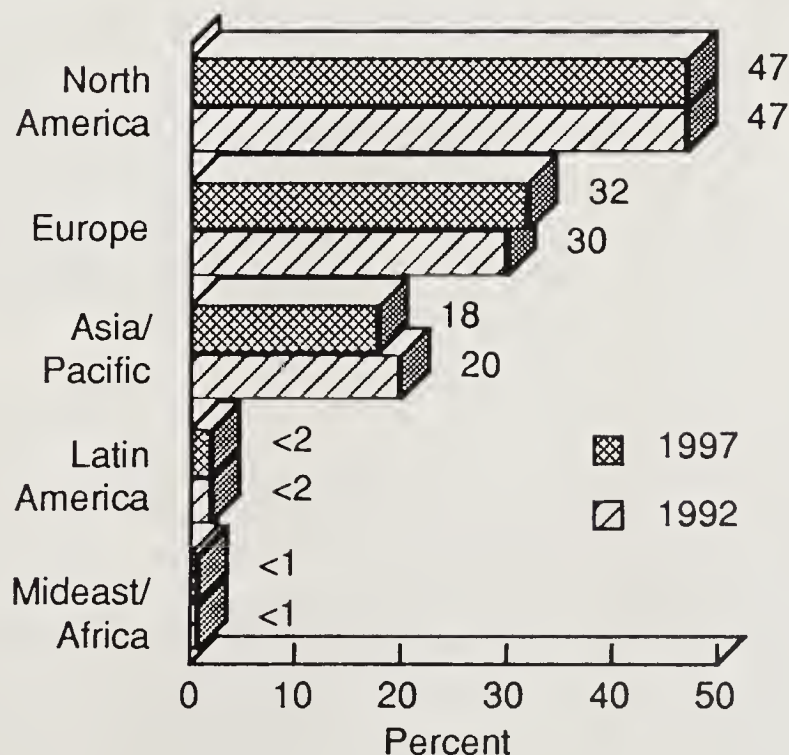
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Discover the New Opportunities in Transportation Electronic Commerce

Electronic Commerce in Trade and Transportation report—just released from INPUT—a must reading for...

- Heads of Information Systems Organizations
- IS Planning Executives
- Network Service Providers
- Software Developers
- Systems Integration Professionals

...anyone responsible for electronic systems

How is electronic commerce technology altering the transportation industry and its trading communities?

Information services providers have a tremendous opportunity to provide high-speed, reliable communications between these commercial traders including:

- Manufacturers
- Distributors
- Retailers
- Transport companies

Plan your participation in the electronification of the transportation industry with analysis and recommendations from INPUT.

Identify your best strategies for penetrating this complex market. Just released from INPUT, *Electronic Commerce in Trade and Transportation*, is packed with detailed, fact-based information.

The report focuses on:

- Where you should aim your selling efforts
- The competitive forces that are driving the use of electronic commerce systems in the transportation industry
- The best opportunities in the transportation sector markets
- The emerging—and needed—services that will establish a solid electronic trading infrastructure

Throughout the transportation industry, carriers, shippers, transportation service companies, and government agencies are using EDI, voice response, electronic data bases, various processing services, and other inter-organizational systems to facilitate commercial exchanges.

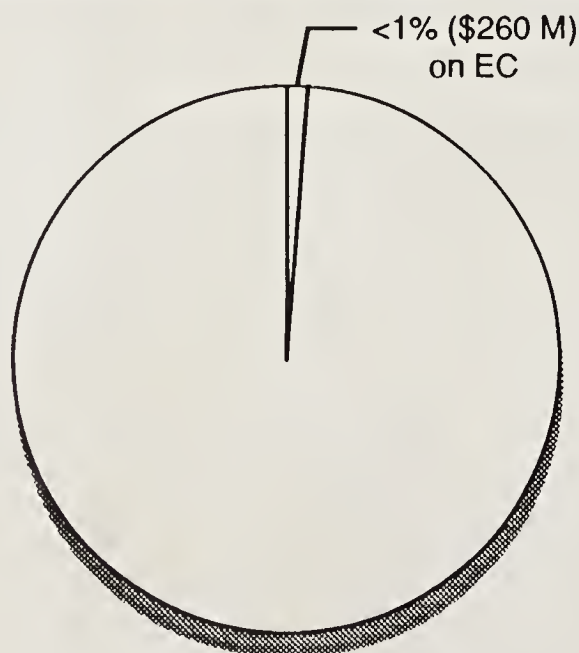
These electronic commerce systems are changing the competitive dynamics of transport:

- In some cases, carrier consolidation is the result.
- In other cases, niches for outsourced services arise or are more effectively enabled (such as third-party logistics).
- In still other cases, new customer service opportunities become possible.

In addition, there is a whole host of issues in building this electronic infrastructure:

- Developing standards and identification codes
- Users of electronic commerce systems becoming vendors of electronic commerce systems
- Allocating the financial burdens of inter-organizational systems
- Integrating different electronic commerce systems to take advantage of synergies and streamline operations

Expenditure on Electronic Commerce as a Percentage of Total Transport Revenue



Total Transport Revenues*
\$122 Billion

* For-hire freight transport only.

Source: INPUT

INPUT's new report, *Electronic Commerce in Trade and Transportation* examines these issues with:

- Detailed case studies of user organizations
- Profiles of providers of electronic commerce services and systems
- Overviews of electronic trading communities (such as port systems)

Electronic Commerce in Trade and Transportation enables you to:

- Identify the electronic systems that are the most promising for revenue generation
- Discover the actual expenditures, by transport submode, for electronic commerce software
- Compare the volumes of transactions that flow into and out of the different submodes—the percent transacted electronically

Key Players

Gain a clear understanding of all the players in the electronic trading community.

Electronic Commerce in Trade and Transportation discusses in detail:

- Leading vendors offering EDI and other electronic commerce services to the transportation industry
- Major companies utilizing various electronic formats with their trading partners
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Electronic Commerce in Trade and Transportation is the most thorough examination of the changes occurring in electronic trading available today. Your plan for electronic commerce systems will be more intelligent with INPUT analysis and recommendations. As a special, one-time offer, **INPUT will give you additional support via telephone for 30 days from the day you purchase the report.** This complimentary service will add immeasurably to your planning and marketing decisions.

Report Highlights

Transport Industry— Key Players and Trade Flows

- Transportation
- Petroleum Suppliers/Shippers
- Distribution Trading Partners
- Business Services

Electronic Commerce— Key Transactional Interfaces

- Trucking
- Railroads
- Ocean and Water Transport
- Air Transport and Couriers
- Pipelines
- Intermodal and Third-Party Services

Electronic Commerce Developments and Requirements

- Directories and Data Bases
- Codes and Classification Systems
- Message Formats
- Interface Technology
- Payment and Credit Services
- International Trade Documentation

Impact on the Transport and Shipper Communities

Financing the Electronic Commerce Infrastructure

Conclusions and Recommendations

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About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specializes in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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*Fast!***

It's not just about contracting out computer operations—

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- Downsizing is dramatically changing outsourcing contracts and opportunities.
 - Learn about “transition outsourcing.”
- Evaluate the connections between outsourcing of IS and business operations.

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By 1997 IS outsourcing expenditures in the U.S. may reach over \$40 billion a year

This Has Happened Before!

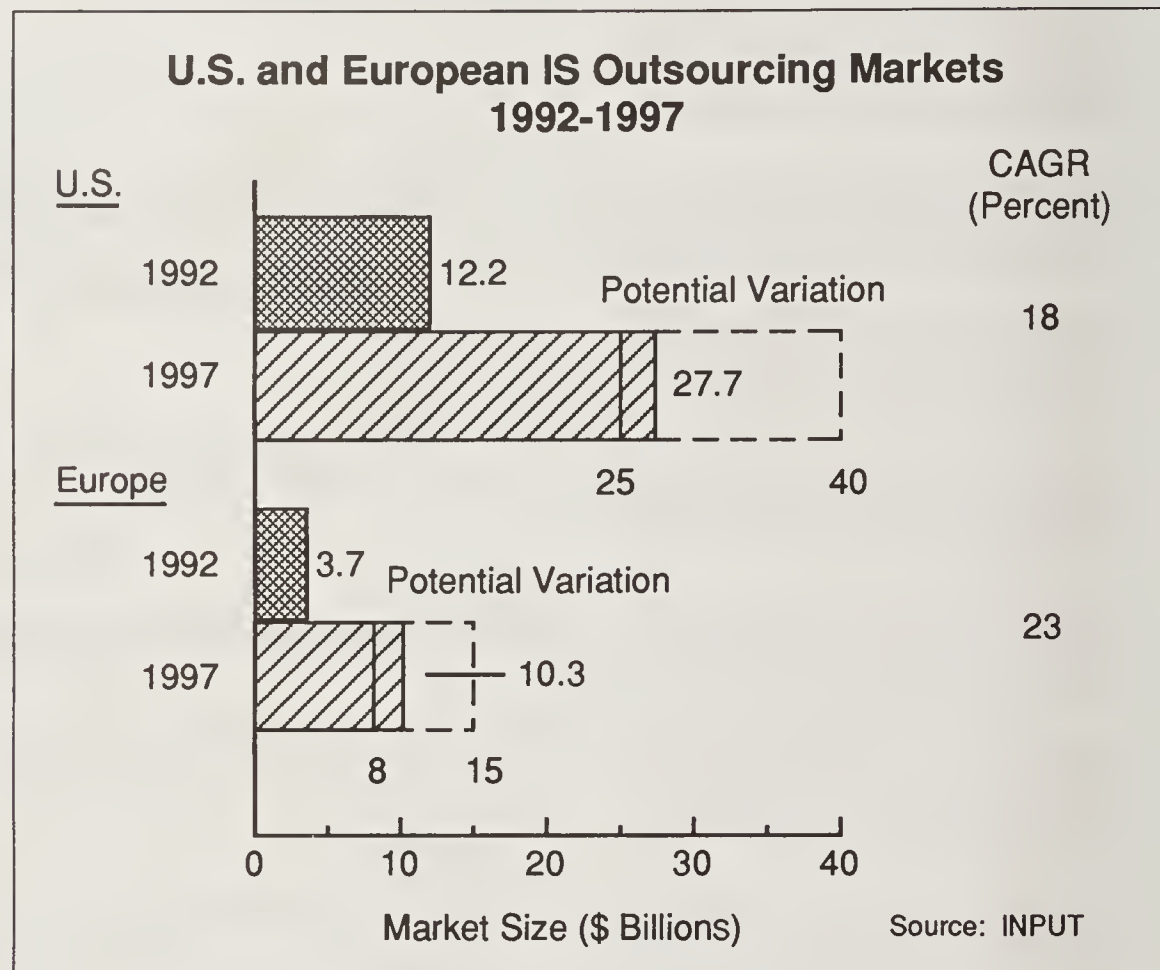
INPUT's report, *Strategic Assessment of the IS Outsourcing Revolution*, shows how the electric power industry was changed by similar factors to those currently affecting the computer industry. The parallels are uncanny!

Will the IS Organization as We Know It Today Disappear?

Learn how the revolutions in IS use are connected and are fundamentally changing how information systems are used. What should you do about this as a user or a vendor? How is the buying/selling process changed? This report shows how the answers to these questions change the whole industry.

Buyer Attitudes to Outsourcing ... What Are They?

Theory is great — but practice and experience is what you must base decisions on! See how buyer attitudes towards IS and outsourcing are changing. How informed are non-IS executives? What can cause attitudes toward outsourcing to change?



How Does IS Outsourcing Impact the IS Organization?

Impacts vary depending on the type of outsourcing adopted. You must know the options available in each case — sometimes over 90% of the IS work force is moved to the vendor; in other cases less than 10% is transferred. From this report you can determine the variability in impact by type of employee — and what can be done to address potential problems before they occur.

IS Outsourcing Is Changing ... Quickly!

Don't get left behind. See what is happening to contract length; what is being included in contracts today; how relationships between vendors and buyers are changing.

Business Operations Outsourcing

Extend the concept of outsourcing to functional operations linked to IS — not just IS itself. This is a fundamental shift in thinking with enormous implications for buyers and vendors. Essentially, where do you draw the line in outsourcing? Why should you consider expanding the scope of outsourcing relationships? Read about specific examples in the health care industry.

Desktop Services — The New Outsourcing Opportunity

Why are companies contracting for services to the desktop? What examples exist of such contracts? What do they include? Who is providing them? What are the requirements of and benefits to customers? How big will the market be? The answers to these and other questions on this exciting opportunity are *must* reading.

Transition Outsourcing — What Is It and Why Is It So Critical Now?

Downsizing is a parallel revolution to outsourcing. This report shows how they are related. The report shows how downsizing is creating new opportunities (such as desktop services), while slowing down traditional outsourcing contracts. One result is the emergence of a new category of outsourcing.

Outsourcing Markets and Vendor Characteristics

How is the market segmented and which types of vendors address which market? What has been the performance in existing contracts? How do different types of vendors approach the markets and what are their capabilities? This mapping of the markets and the vendors is important to competitors and buyers alike.

How Is the Outsourcing Decision Made?

Examine the outsourcing decision process. Review the decision factors of executives and IS managers. How is vendor selection done? How is the outsourcing vendor managed? What about “insourcing”? Get the answers to these questions and to the fundamental question on the benefits of IS outsourcing!

Reality — How Does an Outsourcing Contracting Process Work?

An example of how INPUT assisted a large company in outsourcing is given. The reasons for outsourcing and the process adopted for bidders are described. Details are provided on the specific categories of bid comparison that INPUT used. Whether you are a potential buyer or vendor it is vital to understand these details since the bidding and contracting processes determine success of an outsourcing contract.

Reality—Examples of Outsourcing Contracts

Review case studies for five different types of outsourcing including the buyer expectations and results.

Put this powerful package to work for you now!
Order your copy of *Strategic Assessment of the IS Outsourcing Revolution* today!

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Since 1974, executives in many software and services companies in North America, Europe, and Japan have relied on INPUT for data, objective analysis, and insightful opinions to support their business plans, market assessments and technology directions. Clients make informed decisions more quickly and benefit by saving on the cost of internal research by using INPUT's services.

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ANNUAL SUBSCRIPTION PROGRAMS

NORTH AMERICAN AND EUROPEAN PROGRAMS

*Analysis of Information Services, Software, and Systems Maintenance Markets
5-year Forecasts, Competitive and Trend Analysis*

- 9 Categories of Software and Services
- 15 Vertical Markets
- 7 Cross-Industry Markets
- The Worldwide Market (30 countries)

U.S. PROGRAMS

- Systems Integration
- Outsourcing
- EDI and Electronic Commerce
- Downsizing Information Systems
- IT Vendor Analysis
- U.S. Federal Government IT Procurements

EUROPEAN PROGRAMS

- Systems Integration
- Outsourcing
- Network Management
- Downsizing Information Systems
- Customer Services

CUSTOM CONSULTING

Many clients leverage INPUT's proprietary data and market knowledge by contracting for custom consulting projects to address specific questions about their market strategies, new product/service ideas, customer satisfaction levels, competitive positions and merger/acquisition options. Users have also been advised by INPUT on their downsizing plans and in assessing outsourcing vendors.

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INPUT DEFINITION OF TERMS 1993

A P R I L 1 9 9 3

INPUT DEFINITION OF TERMS

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Published by
INPUT
1280 Villa Street
Mountain View, CA 94041-1194
U.S.A.

**U.S. Information Services
Market Analysis Program**

Definition of Terms, 1993

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Definition of Terms

A

Introduction

INPUT's *Definition of Terms* provides the framework for all of INPUT's market analyses and forecasts of the information services industry. It is used for all U.S. programs. The structure defined in Exhibit 1 is also used in Europe and for the worldwide forecast.

One of the strengths of INPUT's market analysis services is the consistency of the underlying market sizing and forecast data. Each year INPUT reviews its industry structure and makes changes if they are required. When changes are made they are carefully documented and the new definitions and forecasts reconciled to the prior definitions and forecasts. INPUT clients have the benefit of being able to track market forecast data from year to year against a proven and consistent foundation of definitions.

B

Overall Definitions and Analytical Framework

1. Information Services

Information Services are computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Use of vendor-provided computer processing services to develop or run applications or provide services such as disaster recovery or data entry (called *Processing Services*)
- A combination of computer equipment, packaged software and associated support services which will meet an application systems need (called *Turnkey Systems*)

- Packaged software products, including systems software or applications software products (called *Software Products*)
- People services that support users in developing and operating their own information systems (called *Professional Services*)
- The combination of products (software and equipment) and services where the vendor assumes total responsibility for the development of a custom integrated solution to an information systems need (called *Systems Integration*)
- Services that provide operation and management of all or a significant part of a user's information systems functions under a long-term contract (called *Systems Operations*)
- Services that support the delivery of information in electronic form—typically network-oriented services such as value-added networks, electronic mail and document interchange (called *Network Applications*)
- Services that support the access and use of public and proprietary information such as on-line data bases and news services (called *Electronic Information Services*)
- Services that support the operation of computer and digital communication equipment (called *Equipment Services*)

In general, the market for information services does not involve providing equipment to users. The exception is where the equipment is part of an overall service offering such as a turnkey system, a systems operations contract, or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits). However, where information transport is associated with a network-based service (e.g., electronic data interchange services), or cannot be feasibly separated from other bundled services (e.g., some systems operations contracts), the transport costs are included as part of the services market.

The analytical framework of the information services industry consists of the following interacting factors: overall and industry-specific business environment (trends, events and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services and revenues; distribution channels; and competitive issues.

2. Market Forecasts/User Expenditures

All information services market forecasts are estimates of *User Expenditures* for information services. When questions arise about the proper place to count these expenditures, INPUT addresses them from the user's viewpoint: expenditures are categorized according to what users perceive they are buying.

By focusing on user expenditures, INPUT avoids two problems which are related to the distribution channels for various categories of services:

- Double counting, which can occur by estimating total vendor revenues when there is significant reselling within the industry (e.g., software sales to turnkey vendors for repackaging and resale to end users)
- Missed counting, which can occur when sales to end users go through indirect channels such as mail order retailers

Captive Information Services User Expenditures are expenditures for products and services provided by a vendor that is part of the same parent corporation as the user. These expenditures are not included in INPUT forecasts.

Non-captive Information Services User Expenditures are expenditures that go to vendors that have a different parent corporation than the user. It is these expenditures which constitute the information services market analyzed by INPUT and that are included in INPUT forecasts.

3. Delivery Modes

Delivery Modes are defined as specific products and services that satisfy a given user need. While *Market Sectors* specify *who* the buyer is, *Delivery Modes* specify *what* the user is buying.

Of the nine delivery modes defined by INPUT, six are considered primary products or services:

- *Processing Services*
- *Network Services*
- *Professional Services*
- *Applications Software Products*
- *Systems Software Products*
- *Equipment Services*

The remaining three delivery modes represent combinations of these products and services, combined with equipment, management and/or other services:

- *Turnkey Systems*
- *Systems Operations*
- *Systems Integration*

Section C describes the delivery modes and their structure in more detail.

4. Market Sectors

Market Sectors or markets are groupings or categories of the buyers of information services. There are three types of user markets:

- *Vertical Industry* markets, such as Banking, Transportation, Utilities, etc. These are called “industry-specific” markets.
- *Functional Application* markets, such as Human Resources, Accounting, etc. These are called “cross-industry” markets.
- *Other* markets, which are neither industry- nor application-specific, such as the market for systems software products and much of the on-line data base market.

Specific market sectors used by INPUT are defined in Section E, below.

5. Trading Communities

Information technology is playing a major role in re-engineering, not just companies but the value chain or *Trading Communities* in which these companies operate. This re-engineering is resulting in electronic commerce emerging where interorganizational electronic systems facilitate the business processes of the trading community.

- A trading community is the group or organizations—commercial and non-commercial—involved in producing goods or services.
- Electronic commerce and trading communities are addressed in INPUT’s EDI and Electronic Commerce Program.

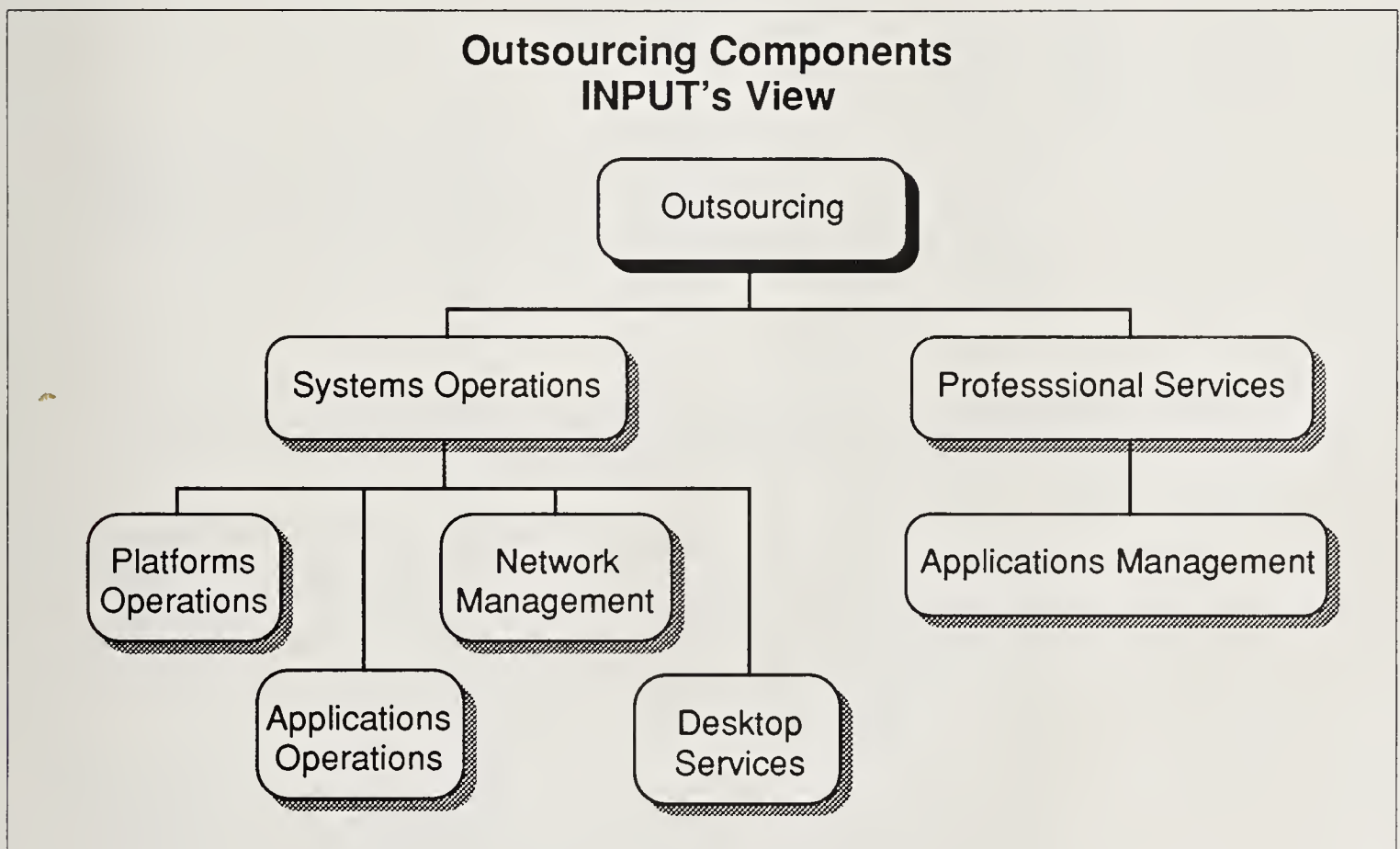
6. Outsourcing

Over the past few years a major change has occurred in the way clients are buying some information services. The shift has been labeled *outsourcing*.

INPUT views outsourcing as a change in the form of the client/vendor relationship. Under an outsourcing relationship, all or a major portion of the information systems function is contracted to a vendor in a long-term relationship. The vendor is responsible for the performance of the function.

INPUT considers the following submodes to be outsourcing-type relationships and in aggregate to represent the outsourcing market. See Exhibit 1. Complete definitions are provided in Section C of this document. INPUT provides these forecasts as part of the corresponding delivery modes.

EXHIBIT 1



- *Platform Systems Operations* - The vendor is responsible for managing and operating the client's computer systems.
- *Applications System Operations* - The vendor is responsible for developing and/or maintaining a client's applications as well as operating the computer systems.
- *Network Management* - The vendor assumes full responsibility for operating and managing the client's data communications systems. This may also include the voice communications of the client.

- *Applications Management/Maintenance* - The professional services vendor has full responsibility for developing and/or maintaining some or all of the applications systems that a client uses to support business operations. The services are provided on a long-term contractual basis.
- *Desktop Services* - The vendor assumes responsibility for the deployment, maintenance, and connectivity between the personal computers and/or intelligent workstations in the client organization. The services may also include performing the help-desk function. The services are provided on a long-term contractual basis.

C

Delivery Modes and Submodes

Exhibit 2 provides the overall structure of the information services industry as defined and used by INPUT. This section of *Definition of Terms* provides definitions for each of the delivery modes and their submodes or components.

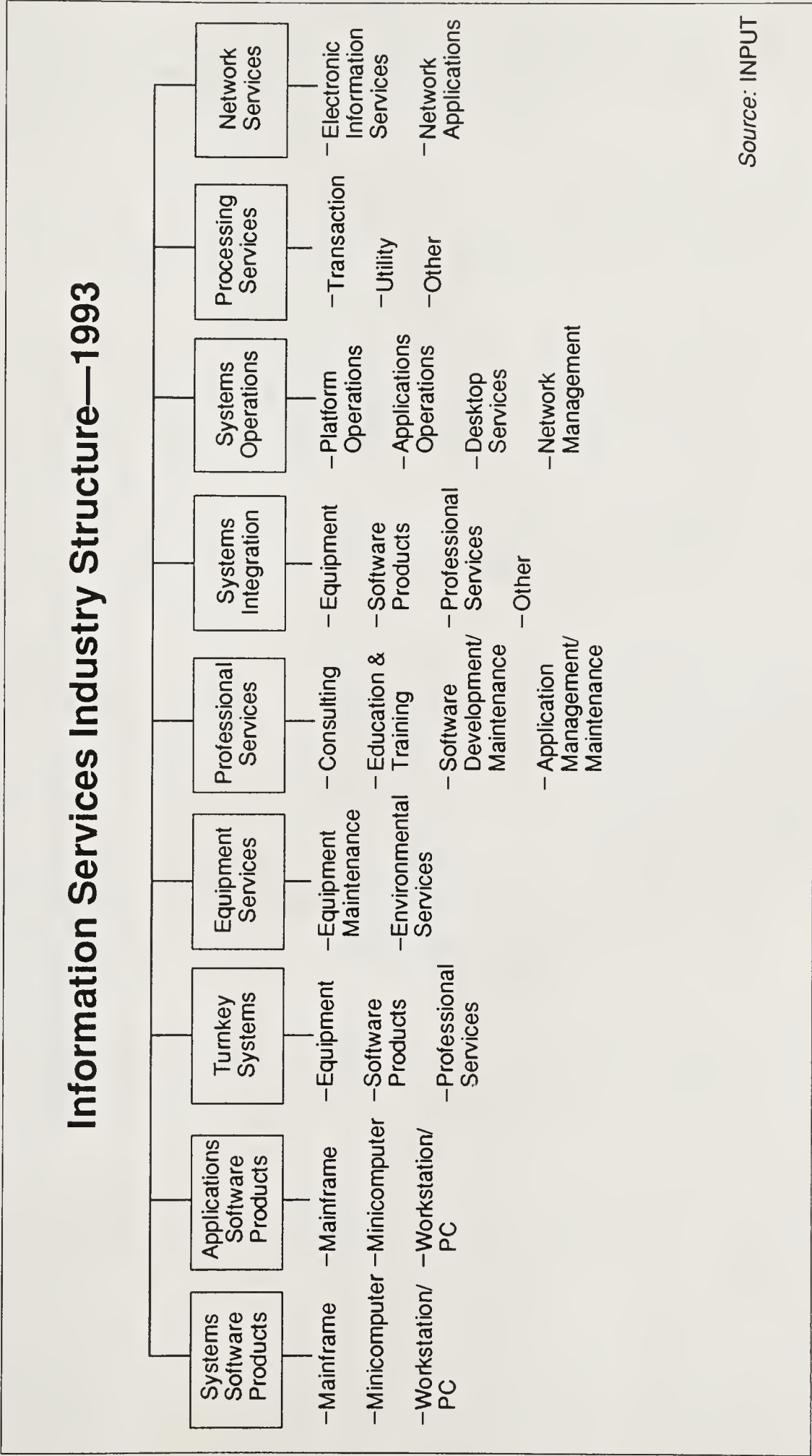
1. Software Products

INPUT divides the software products market into two delivery modes: systems software and applications software.

The two delivery modes have many similarities. Both involve purchases of software packages for in-house computer systems. Included are both lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's sites. Vendor-provided training or support in operation and use of the package, if part of the software pricing, is also included here.

Expenditures for work performed by organizations other than the package vendor are counted in the professional services delivery mode. Fees for work related to education, consulting, and/or custom modification of software products are also counted as professional services, provided such fees are charged separately from the price of the software product itself.

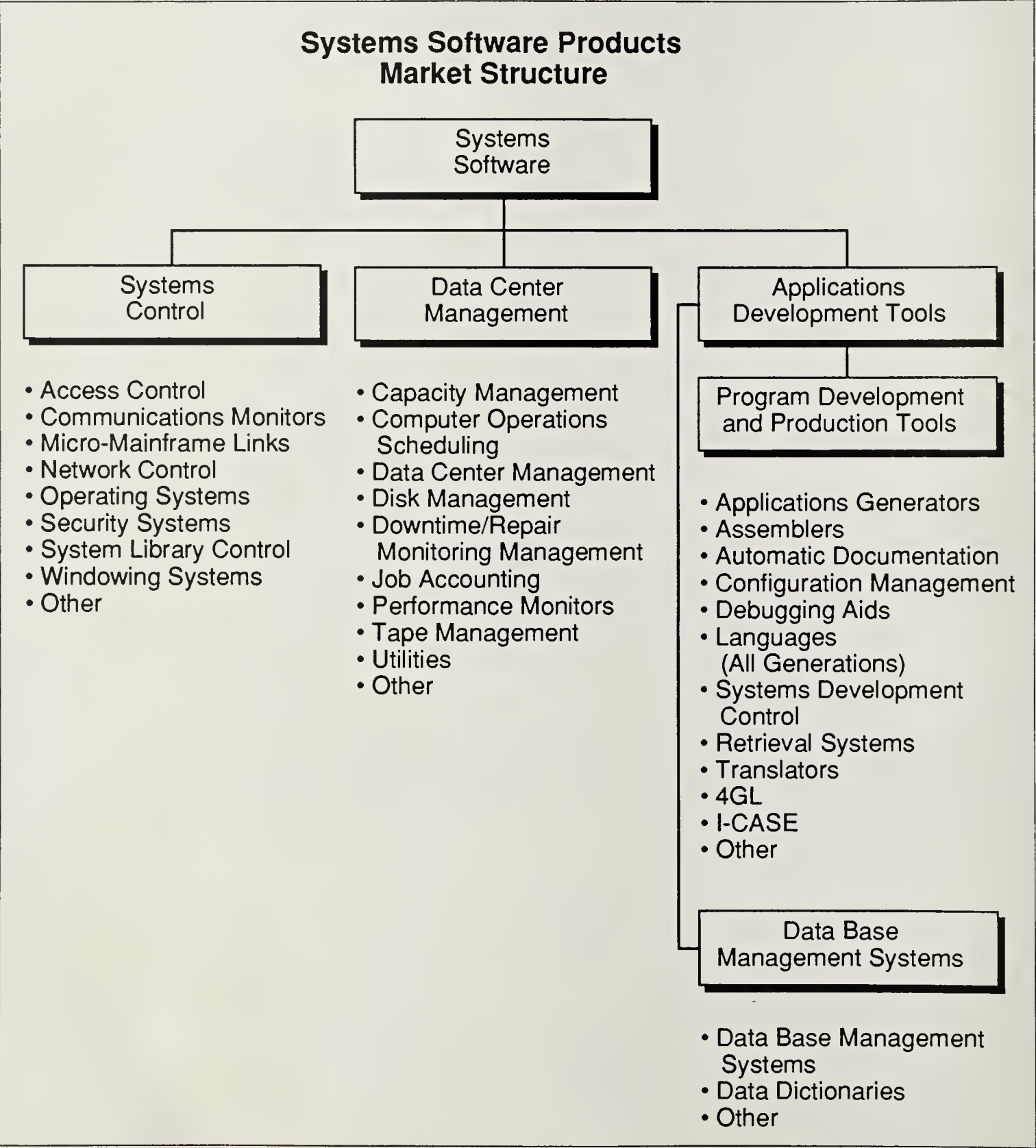
EXHIBIT 2



a. Systems Software Products

Systems software products enable the computer/communications system to perform basic machine-oriented or user interface functions. INPUT divides systems software products into three submodes. See Exhibit 3.

EXHIBIT 3



- *Systems Control Products* - Software programs that manage computer system resources and control the execution of programs. These products include operating systems, emulators, network control, library control, windowing, access control, and spoolers.
- *Operations Management Tools* - Software programs used by operations personnel to manage the computer system and/or network resources and personnel more effectively. Included are performance measurement, job accounting, computer operation scheduling, disk management utilities, and capacity management.
- *Applications Development Tools* - Software programs used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Included are traditional programming languages, 4GLs, data dictionaries, data base management systems, report writers, project control systems, CASE systems and other development productivity aids.

INPUT also forecasts the systems software products delivery mode by platform level: mainframe, minicomputer and workstation/PC.

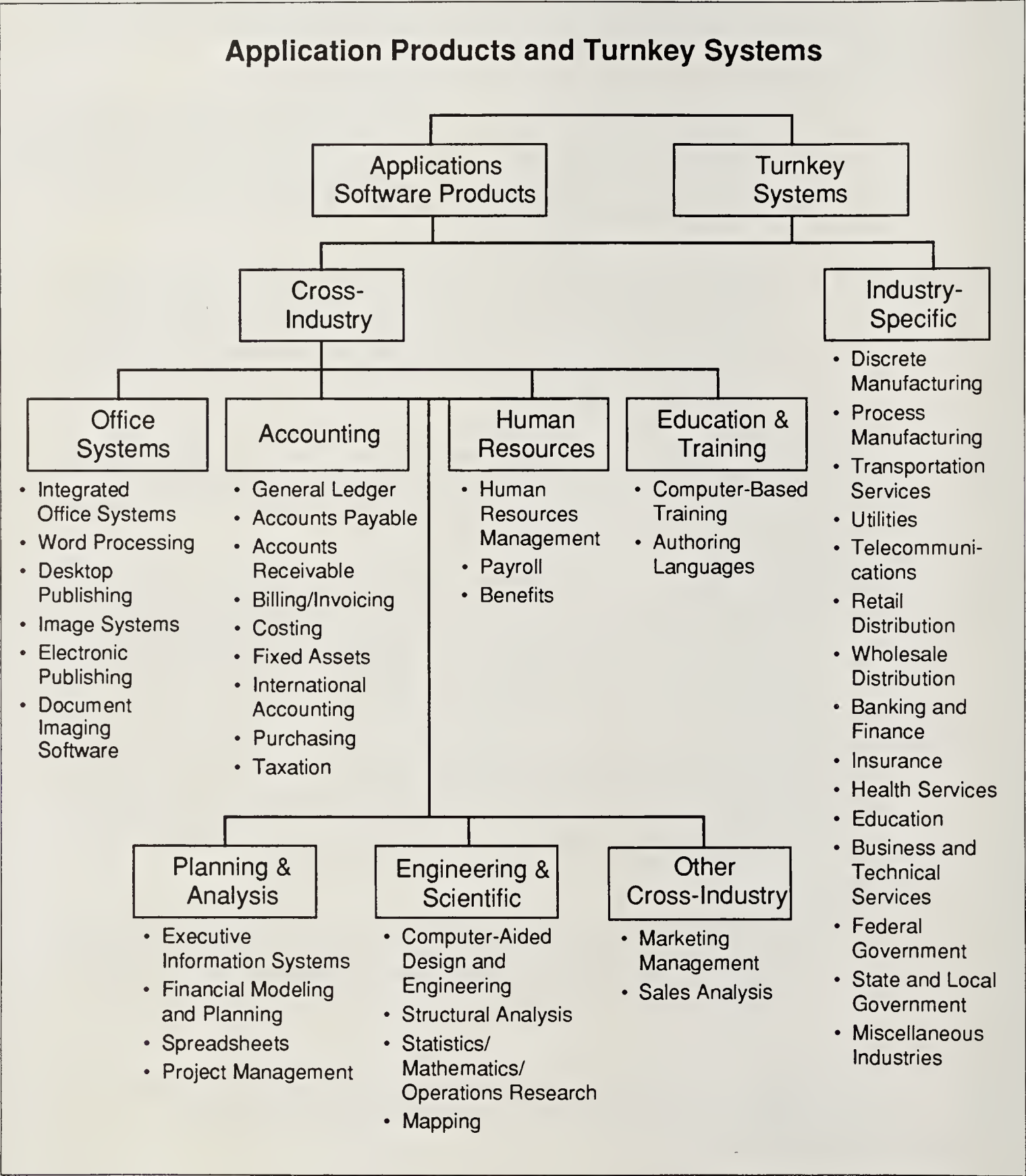
b. Applications Software Products

Applications software products enable a user or group of users to support an operational or administrative process within an organization. Examples include accounts payable, order entry, project management and office systems. INPUT categorizes applications software products into two groups of market sectors. (See Exhibit 4.)

- *Industry Applications Software Products* - Software products that perform functions related to fulfilling business or organizational needs unique to a specific industry (vertical) market and sold to that market only. Examples include demand deposit accounting, MRPII, medical record keeping, automobile dealer parts inventory, etc.
- *Cross-Industry Applications Software Products* - Software products that perform a specific function that is applicable to a wide range of industry sectors. Examples include payroll and human resource systems, accounting systems, word processing and graphics systems, spreadsheets, etc.

INPUT also forecasts the applications software products delivery mode by platform level: mainframe, minicomputer and workstation/PC.

EXHIBIT 4



2. Turnkey Systems

A turnkey system is an integration of equipment (CPU, peripherals, etc.), systems software, and packaged applications software into a single product developed to meet a specific set of user requirements. Value added by the turnkey system vendor is primarily in the software and professional services provided. INPUT categorizes turnkey systems into two groups of market sectors as it does for applications software products. (See Exhibit 4.)

Most CAD/CAM systems and many small business systems are turnkey systems. Turnkey systems utilize standard computers and do not include specialized hardware such as word processors, cash registers, process control systems, or embedded computer systems for military applications.

Computer manufacturers (e.g., IBM or DEC) that combine software with their own general-purpose hardware are not classified by INPUT as turnkey vendors. Their software revenues are included in the appropriate software category.

Most turnkey systems are sold through channels known as value-added resellers.

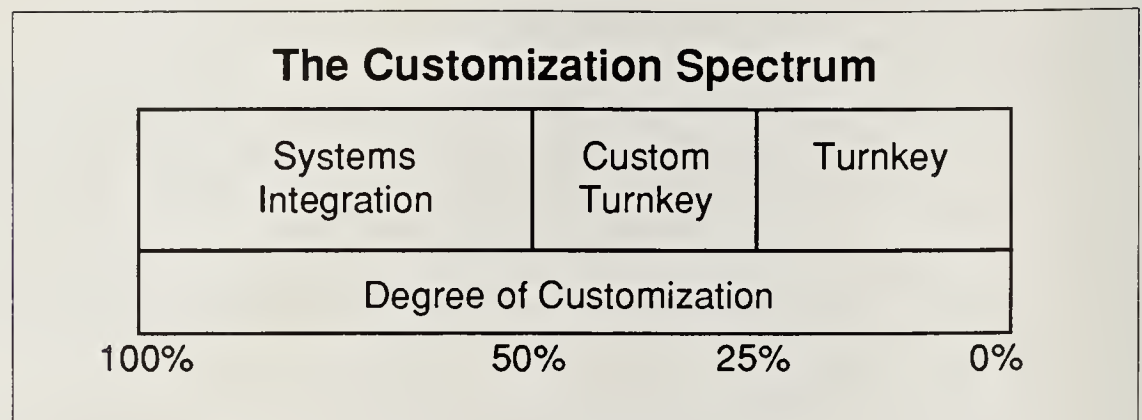
- *Value-Added Reseller (VAR)*: A VAR adds value to computer hardware and/or software and then resells it to an end user. The major value added is usually applications software for a vertical or cross-industry market, but also includes many of the other components of a turnkey systems solution, such as professional services, software support, and applications upgrades.

Turnkey systems have three components:

- Equipment - computer hardware supplied as part of the turnkey system
- Software products - prepackaged systems and applications software products
- Professional services - services to install or customize the system or train the user, provided as part of the turnkey system sale

Exhibit 5 contrasts turnkey systems with systems integration. Turnkey systems are based on available software products that a vendor may modify to a modest degree.

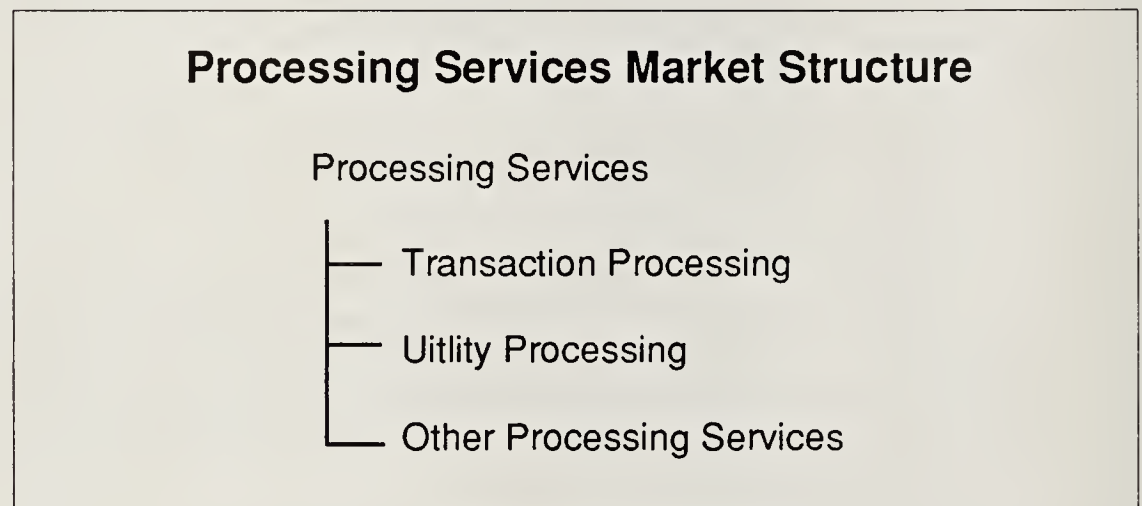
EXHIBIT 5



3. Processing Services

This delivery mode includes three submodes: transaction processing, utility processing, and “other” processing services. See Exhibit 6.

EXHIBIT 6



- *Transaction Processing* - Client uses vendor-provided information systems—including hardware, software and/or data networks—at the vendor site or customer site to process specific applications and update client data bases. The application software is typically provided by the vendor.
- *Utility Processing* - Vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.), enabling clients to develop and/or operate their own programs or process data on the vendor’s system.
- *Other Processing Services* - Vendor provides service—usually at the vendor site—such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup and disaster recovery, etc.

4. Systems Operations

Systems operations as a delivery mode was introduced in the 1990 Market Analysis and Systems Operations programs. Previously called Facilities Management, this delivery mode was created by taking the Systems Operations submode out of both Processing Services and Professional Services. For 1992 the submodes have been defined as follows.

Systems operations involves the operation and management of all or a significant part of the client's information systems functions under a long-term contract. These services can be provided in either of two distinct submodes where the difference is whether the support of applications, as well as data center operations, is included.

- *Platform systems operations* - The vendor manages and operates the computer systems, to perform the client's business functions, without taking responsibility for the client's application systems.
- *Applications systems operations* - The vendor manages and operates the computer systems to perform the client's business functions, and is also responsible for maintaining, or developing and maintaining, the client's application systems.
- *Network Management* - The vendor assumes responsibility for operating and managing the client's data communications systems. This may also include the voice communications of the client. A network management outsourcing contract may include only the management services or the full costs of the communications services and equipment plus the management services.
- *Desktop Services* - The vendor assumes responsibility for the deployment, maintenance, and connectivity among the personal computers and/or workstations in the client organization. The services may also include performing the help-desk function. Equipment as well as services can be part of a desktop services outsourcing contract.

Note: This type of client service can also be provided through traditional professional services where the contractual criteria of outsourcing are not present.

Systems operations vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain and manage any or all components of the client's information systems environment (equipment, networks, applications systems), either at the client's site or the vendor's site.

Note: In the federal government market, systems operation services are also defined by equipment ownership with the terms “COCO” (Contractor-Owned, Contractor-Operated), and “GOCO” (Government-Owned, Contractor-Operated).

5. Systems Integration (SI)

Systems integration is a vendor service that provides a complete solution to an information system, networking or automation development requirement through the custom selection and implementation of a variety of information system products and services. A systems integrator is responsible for the overall management of a systems integration contract and is the single point of contact and responsibility to the buyer for the delivery of the specified system function, on schedule and at the contracted price. (Refer to Exhibit 7.)

The components of a systems integration project are the following:

- *Equipment* - information processing and communications equipment required to build the systems solution. This component may include custom as well as off-the-shelf equipment to meet the unique needs of the project. The systems integration equipment category excludes turnkey systems by definition.
- *Software products* - prepackaged applications and systems software products.
- *Professional services* - the value-added component that adapts the equipment and develops, assembles, or modifies the software and hardware to meet the system's requirements. It includes all of the professional services activities required to develop, implement, and if included in the contract, operate an information system, including consulting, program/project management, design and integration, software development, education and training, documentation, and systems operations and maintenance.
- *Other services* - most systems integration contracts include other services and product expenditures that are not classified elsewhere. This category includes miscellaneous items such as engineering services, automation equipment, computer supplies, business support services and supplies, and other items required for a smooth development effort.

EXHIBIT 7

Products/Services in Systems Integration Projects

Equipment

- Information systems
- Communications

Software Products

- Systems software
- Applications software

Professional Services

- Consulting
 - Feasibility and trade-off studies
 - Selection of equipment, network and software
- Program/project management
- Design/integration
 - Systems design
 - Installation of equipment, network, and software
 - Demonstration and testing
- Software development
 - Modification of software packages
 - Modification of existing software
 - Custom development of software
- Education/training and documentation
- Systems operations/maintenance

Other Miscellaneous Products/Services

- Site preparation
- Data processing supplies
- Processing/network services
- Data/voice communication services

6. Professional Services

This category includes four submodes: consulting, education and training, software development, and applications management. Exhibit 8 provides additional detail.

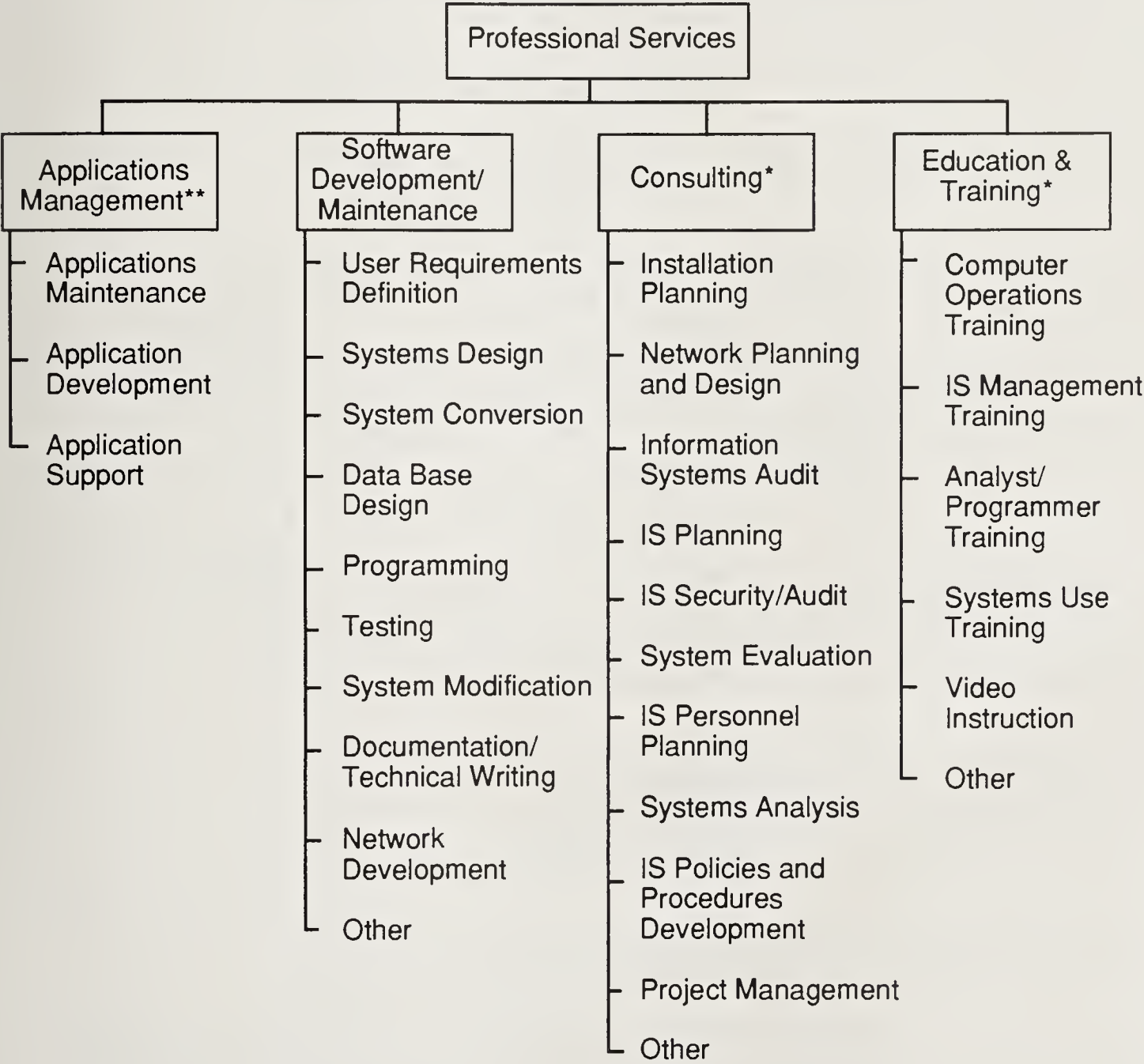
- *Consulting*: Services include management consulting (related to information systems), information systems re-engineering, information systems consulting, feasibility analysis and cost-effectiveness studies, and project management assistance. Services may be related to any aspect of the information system, including equipment, software, networks and systems operations.
- *Education and Training*: Services that provide training and education or the development of training materials related to information systems and services for the information systems professional and the user, including computer-aided instruction, computer-based education, and vendor instruction of user personnel in operations, design, programming, and documentation. Education and training provided by school systems is not included. General education and training products are included as a cross-industry market sector.
- *Software Development*: Services include user requirements definition, systems design, contract programming, documentation, and implementation of software performed on a custom basis. Conversion and maintenance services are also included.
- *Applications Management*: The vendor has full responsibility for maintaining and upgrading some or all of the application systems that a client uses to support business operations and may develop and implement new application systems for the client.

An applications management contract differs from traditional software development in the form of the client/vendor relationship. Under traditional software development services the relationship is project based. Under applications management it is time and function based.

These services may be provided in combination or separately from platform systems operations.

EXHIBIT 8

Professional Services Market Structure



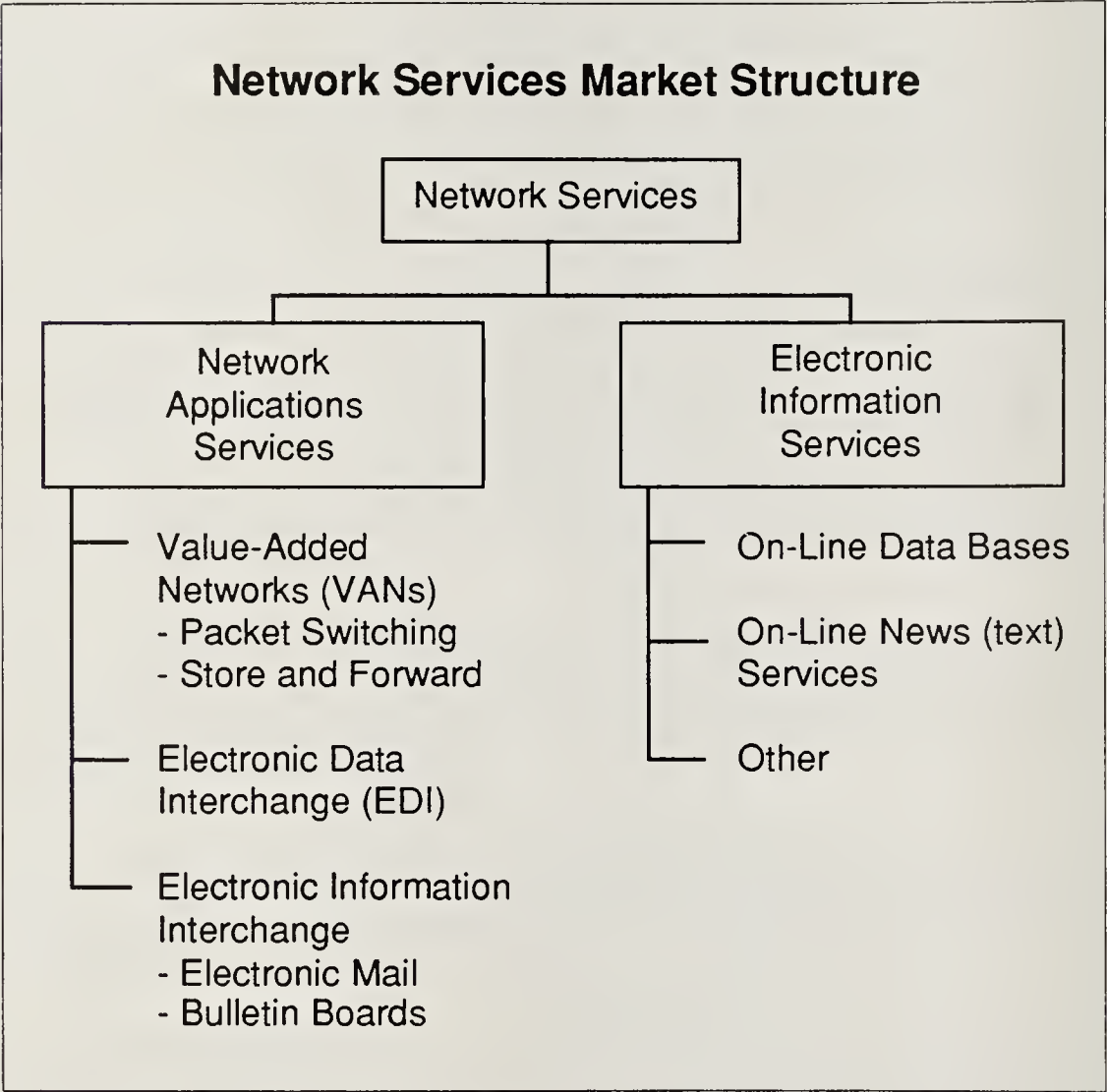
*Related to computer systems, topics, or issues

**Vendor assumes full responsibility on contracted longer term basis

7. Network Services

Network services are a variety of telecommunications-based functions and operations. Network service includes two submodes, as shown in Exhibit 9.

EXHIBIT 9



a. Electronic Information Services

Electronic information services are data bases that provide specific information via terminal- or computer-based inquiry, including items such as stock prices, legal precedents, economic indicators, periodical literature, medical diagnosis, airline schedules, automobile valuations, etc. The terminals used may be computers themselves, such as communications servers or personal computers.

Users inquire into and extract information from the data bases. They may load extracted data into their own computer systems; the vendor does not provide data processing or manipulation capability as part of the electronic information service and users cannot update the vendor's data bases. However, the vendor may offer other services (network applications or processing services) that do offer processing or manipulation capability.

The two kinds of electronic information services are:

- *On-line Data Bases* - Structured, primarily numerical data on economic and demographic trends, financial instruments, companies, products, materials, etc.
- Unstructured, primarily textual information on people, companies, events, etc. These are often news services.

While electronic information services have traditionally been delivered via networks, there is a growing trend toward the use of CD ROM optical disks to support or supplant on-line services, and these optical disk-based systems are included in the definition of this delivery mode.

b. Network Applications

Value-Added Network Services (VAN Services) - VAN services are enhanced transport services which involve adding such functions as automatic error detection and correction, protocol conversion, and store-and-forward message switching to the provision of basic network circuits.

While VAN services were originally provided only by specialized VAN carriers (Tymnet, Telenet, etc.), today these services are also offered by traditional common carriers (AT&T, Sprint, etc.). Meanwhile, the VAN carriers have also branched into the traditional common carriers' markets and are offering unenhanced basic network circuits as well.

Electronic Data Interchange (EDI) - Application-to-application electronic exchange of business data between trade partners or facilitators using a telecommunications network.

Electronic Information Interchange- The transmission of messages across an electronic network managed by a services vendor, including electronic mail, voice mail, voice messaging, and access to Telex, TWX, and other messaging services. This also includes bulletin board services.

8. Equipment Services

- The equipment services delivery mode includes two submodes. Both deal with the support and maintenance of computer equipment.
- *Equipment Maintenance* - Services provided to repair, diagnose problems and provide preventive maintenance both on-site and off-site for

computer equipment. The costs of parts, media and other supplies are excluded. These services are typically provided on a contract basis.

- *Environmental Services* - Composed of equipment and data center related special services such as cabling, air conditioning and power supply, equipment relocation and similar services.

D

Computer Equipment

These definitions have been included to provide the basis for market segmentation in the software products markets.

- *Computer Equipment* - Includes all computer and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system. Unless otherwise noted in an INPUT forecast, computer equipment is only included where it is part of the purchase of services or software products (e.g., turnkey systems and systems integration).
- *Peripherals* - Includes all input, output, communications, and storage devices (other than main memory) that can be channel connected to a processor, and generally cannot be included in other categories such as terminals.
- *Input Devices* - Includes keyboards, numeric pads, card readers, light pens and track balls, tape readers, position and motion sensors, and analog-to-digital converters.
- *Output Devices* - Includes printers, CRTs, projection television screens, micrographics processors, digital graphics, and plotters
- *Communication Devices* - Includes modem, encryption equipment, special interfaces, and error control
- *Storage Devices* - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories
- *Computer Systems* - Includes all processors from personal computers to supercomputers. Computer systems may require type- or model-unique operating software to be functional, but this category excludes applications software and peripheral devices and processors or CPUs not provided as part of an integrated (turnkey) system.
- *Personal computers* - Smaller computers using 8-, 16-, or 32-bit computer technology. Generally designed to sit on a desktop and are portable for individual use. Price generally less than \$5,000.

- *Workstations* - High-performance, desktop, single-user computers often employing Reduced Instruction Set Computing (RISC). Workstations provide integrated, high-speed, local network-based services such as data base access, file storage and back-up, remote communications, and peripheral support. These products usually cost from \$5,000 to \$15,000.
- *Minicomputer or midsize computers* - Minicomputers are generally priced from \$15,000 to \$350,000. Many of the emerging client/server computers are in this category.
- *Mainframe or large computers* - Traditional mainframe and supercomputers costing more than \$350,000.
- *Client/server computing* - Client/server is an architecture that assembles applications software and data bases, systems software, and computer and networking equipment into a usable form for the purpose of leveraging information technology investments.

Broadly defined, it can include any kind of server, such as file servers and network servers, that are accessed by any kind of client, including a nonintelligent terminal. INPUT has elected to use the narrower and newer definition, by which application and data processing is shared between a client and a server. It is through the act of sharing that the greatest benefit is derived in terms of leveraging information technology investments. It is also the cause of the greatest change for vendors and users.

E

Sector Definitions

1. Industry Sector Definitions

INPUT structures the information services market into industry sectors such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the 1987 revision of the Standard Industrial Classification (SIC) code system. The specific industries (and their SIC codes) included under these industry sectors are detailed in Exhibit 10.

INPUT includes all delivery modes except systems software products and equipment services in industry market sectors. See Exhibit 9 and section E-3 (Delivery Mode Reporting by Sector).

Note: SIC code 88 is Personal Households. INPUT does not currently analyze or forecast information services in this market sector.

EXHIBIT 10

Industry Sector Definitions

Industry Sector	SIC Code	Description
Discrete Manufacturing	23xx	Apparel and other finished products
	25xx	Furniture and fixtures
	27xx	Printing, publishing and allied industries
	31xx	Leather and leather products
	34xx	Fabricated metal products, except machinery and transportation equipment
	35xx	Industrial and commercial machinery and computer equipment
	36xx	Electronic and other electrical equipment and components, except computer equipment
	37xx	Transportation equipment
	38xx	Instruments; photo/med/optical goods; watches/clocks
	39xx	Miscellaneous manufacturing industry
Process Manufacturing	10xx	Metal mining
	12xx	Coal mining
	13xx	Oil and gas extraction
	14xx	Mining/quarrying nonmetallic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
	24xx	Lumber and wood products, except furniture
	26xx	Paper and allied products
	28xx	Chemicals and allied products
	29xx	Petroleum refining and related industries
	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete products
	33xx	Primary metal industries
Transportation Services	40xx	Railroad transport
	41xx	Public transit/transport
	42xx	Motor freight transport/warehousing
	43xx	U.S. Postal Service
	44xx	Water transportation
	45xx	Air transportation (including airline reservation services in 4512)
	46xx	Pipelines, except natural gas
	47xx	Transportation services (including 472x, arrangement of passenger transportation)

EXHIBIT 10 (CONT.)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Telecommunications	48xx	Communications
Utilities	49xx	Electric, gas and sanitary services
Retail Distribution	52xx	Building materials
	53xx	General merchandise stores
	54xx	Food stores
	55xx	Automotive dealers, gas stations
	56xx	Apparel and accessory stores
	57xx	Home furniture, furnishings and accessory stores
	58xx	Eating and drinking places
	59xx	Miscellaneous retail
Wholesale Distribution	50xx	Wholesale trade - durable goods
	51xx	Wholesale trade - nondurable goods
Banking and Finance	60xx	Depository institutions
	61xx	Nondepository institutions
	62xx	Security and commodity brokers, dealers, exchanges and services
	67xx	Holding and other investment offices
Insurance	63xx	Insurance carriers
	64xx	Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

EXHIBIT 10 (CONT.)

Industry Sector Definitions		
Industry Sector	SIC Code	Description
Business Services	65xx	Real estate
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	73xx	Business services (except hotel reservation services in 7389)
	7389x	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	81xx	Legal services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
	87xx	Engineering, accounting, research, management, and related services
	89xx	Miscellaneous services
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors

2. Cross-Industry Sector Definitions

INPUT has identified seven cross-industry market sectors. These sectors or markets involve multi-industry applications such as human resource systems, accounting systems, etc.

- In order to be included in an industry sector, the service or product delivered must be specific to that sector only. If a service or product is used in more than one industry sector, it is counted as cross-industry.
- INPUT only includes the turnkey systems, applications software products, and transaction processing services in the cross-industry sectors.

The seven cross-industry markets are:

Accounting - consists of applications software products and information services that serve such functions as:

- General ledger
 - Financial management
 - Accounts payable
 - Accounts receivable
 - Billing/invoicing
 - Fixed assets
 - International accounting
 - Purchasing
 - Taxation
 - Financial consolidation
- Excluded are accounting products and services directed to a specific industry, such as tax processing services for CPAs and accountants within the business services industry sector.

Human Resources - consists of application solutions purchased by multiple industry sectors to serve the functions of human resources management and payroll. Examples of specific applications within these two major functions are:

- Employee relations
- Benefits administration
- Government compliance
- Manpower planning
- Compensation administration
- Applicant tracking
- Position control
- Payroll processing

Education and Training - consists of education and training for information systems professionals and users of information systems delivered as a software product, turnkey system or through processing services. The market for computer-based training tools for the training of any employee on any subject is also included.

Office Systems consists of the following six categories:

Integrated Office Systems (IOSs) - IOSs integrate the applications that perform common office tasks. Typically these tasks include the following core applications, all of which are accessed from the same terminal, microcomputer or workstation:

- Electronic mail
- Decision support systems
- Time management
- Filing systems

IOSs enable office workers to utilize applications that are resident on a number of hosts or servers, thus creating a corporate communication environment through integrating line-of-business software with personal software productivity tools. IOSs capitalize on the cross-platform architectures of major vendors. Major hardware vendors such as IBM, Data General, Digital, Hewlett-Packard and NCR all offer IOSs.

Work flow and groupware products are also included within the IOS definition.

Word Processing - Word processing is the most common microcomputer application and is a basic application within the office systems sector. Word processing addresses several levels of functionality, from the production of simple correspondence to large document generation where many people within different departments have input.

Desktop Publishing (DTP) - Desktop publishing refers to the page-design software programs that allow small and mid-sized organizations to publish printed documents (brochures, catalogs, newsletters, reports, etc.) from the desktop. The primary functions of DPT software include the manipulation of the following functions:

- Layout and design of columns.
- Text manipulation (font type).
- Graphic manipulation.
- Print Control (color type, paper type)

Electronic Publishing - Electronic publishing includes composition, printing, and editing software for documents containing multiple typefaces and graphics including charts, diagrams, computer-aided design (CAD) drawings, line art, and photographs. Electronic publishing products may also have different data formats such as text, graphs, images, voice and video.

The fundamental difference between electronic publishing and desktop publishing is that electronic publishing encompasses a method of document management and control from a single point regardless of how many authors/locations work on a document. Desktop publishing (DTP) on the other hand, is considered a personal productivity tool and is generally a lower-end product residing on a personal computer.

Graphics - Graphics packages that are used for presentations or freehand drawings and/or are ancillary to desktop publishing are part of office systems. Thus, the graphics component of office systems sector includes the following elements:

Presentation graphics represent the bulk of office systems graphics. Most presentations involve a combination of graphs and text. They are used to communicate a series of messages to an audience rather than to analyze data.

Paint and line art drawing programs are used for illustrations while page layout programs are used to integrate text and graphics.

Electronic form programs allow users to create and print forms in-house. Some applications work with OCR scanners allowing users to scan pictures and logos directly on the forms.

Document Imaging Software - The software that allows users to manipulate (store, retrieve, print) images that have been scanned from paper documents. The applications that imaging software generates include: full text retrieval, document management, and database management. Document imaging software is a component of an imaging system. Hardware components of imaging systems include: scanners, image servers, workstations, optical drives, printers, and storage devices.

Engineering and Scientific encompasses the following applications:

- Computer-aided design and engineering (CAD and CAE)
- Structural analysis
- Statistics/mathematics/operations research
- Mapping/GIS
- Computer-aided manufacturing (CAM) or CAD that is integrated with CAM is excluded from the cross-industry sector as it is specific to the manufacturing industries. CAD or CAE that is dedicated to integrated circuit design is also excluded because it is specific to the semiconductor industry.

Planning and Analysis consists of software products and information services in four application areas:

- Executive Information Systems (EIS)
- Financial modeling or planning systems
- Spreadsheets
- Project management

Other encompasses marketing/sales and electronic publishing application solutions.

- Sales and marketing includes:
 - Sales analysis
 - Marketing management
 - Demographic market planning models

3. Delivery Mode Reporting by Sector

This section describes how the delivery mode forecasts relate to the market sector forecasts. Exhibit 11 summarizes the relationships.

- *Processing services* - The transaction processing services submode is forecasted for each industry and cross-industry market sector. The utility and other processing services submodes are forecasted in total market in the general market sector.
- *Turnkey systems* - Turnkey systems is forecasted for the 15 industry and 7 cross-industry sectors. Each component of turnkey systems is forecasted in each sector.

EXHIBIT 11

Delivery Mode versus Market Sector Forecast Content

Delivery Mode	Submode	Market Sectors		
		Industry Sectors	Cross-Industry Sectors	General
Processing Services	Transaction Utility Other	X	X	X X
Turnkey Systems		X	X	
Applications Software Products		X	X	
Systems Operations	Platform Applications	X X		
Systems Integration		X		
Professional Services		X		
Network Services	Network Applications Electronic Information Services	X X		X
Systems Software Products				X
Equipment Services				X

- *Applications software products* - The applications software products delivery mode is forecasted for the 15 industry and 7 cross-industry sectors. In addition, each forecast is broken down by platform level: mainframe, minicomputer and workstation/PC.
- *Systems operations* - Each of the systems operations submodes is forecasted for each of the 15 industry sectors.
- *Systems integration* - Systems integration and each of the components of systems integration are forecasted for each of the 15 industry sectors.
- *Professional services* - Professional services and each of the submodes is forecasted for each of the 15 industry sectors.

- *Network services* - The network applications submode of network services forecasted for each of the 15 industry sectors.

Industry and cross-industry electronic information services are forecast in relevant market sectors. The remainder of electronic information services is forecasted in total for the general market sector.

- *Systems software products* - Systems software products and its submodes are forecasted in total for the general market sector. Each submode forecast is broken down by platform level: mainframe, minicomputer and workstation/PC.
- *Equipment services* - Equipment services and its submodes are forecasted in total in the general market sectors.

F

Vendor Revenue and User Expenditure Conversion

The size of the information services market may be viewed from two perspectives: vendor (producer) revenues and user expenditures. INPUT defines and forecasts the information services market in terms of user expenditures. User expenditures reflect the markup in producer sales when a product such as software is delivered through indirect distribution channels (such as original equipment manufacturers (OEMs), retailers and distributors). The focus on user expenditure also eliminates the double counting of revenues that would occur if sales were tabulated for both producer (e.g., Lotus) and distributor (e.g., ComputerLand).

For most delivery modes, vendor revenues and user expenditures are fairly close. However, there are some areas of significant difference. Many microcomputer software products, for example, are marketed through distribution channels. To capture the value added through these distribution channels, adjustment factors are used to convert estimated information services vendor revenues to user expenditures.

For some delivery modes, including software products, systems integration and turnkey systems, there is a significant volume of intra-industry sales. For example, systems integrators purchase software and subcontract the services of other professional services vendors. Turnkey vendors incorporate purchased software into the systems they sell to users.

To account for such intra-industry transactions, INPUT uses conversion ratios to derive the estimate of end-user expenditures.

Exhibit 12 summarizes the net effect of the various ratios used by INPUT to convert vendor revenues to user expenditure (market size) figures for each delivery mode.

EXHIBIT 12

Vendor Revenue to User Expenditure Conversion	
Delivery Mode	Vendor Revenue Multiplier
Applications Software Products	1.18
Systems Software Products	1.10
Systems Operations	0.95
Systems Integration	0.95
Professional Services	0.99
Network Services	0.99
Processing Services	0.99
Turnkey Systems	0.95
Equipment Services	0.99

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ABOUT INPUT

Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, objective analysis, and insightful opinions to support their plans, market assessments and technology directions particularly in computer software and services. Clients make informed decisions more quickly and save on the cost of internal research by using INPUT's services.

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- Outsourcing
- Client/Server
- Systems Integration
- EDI/Electronic Commerce
- IT Vendor Analysis
- U.S. Federal Government IT Procurements

EUROPEAN FOCUSED

- Outsourcing
- Systems Integration
- Customer Services

CUSTOM CONSULTING

Many vendors leverage INPUT's proprietary data and industry knowledge by contracting for custom consulting projects to address questions about their specific market strategies, new product/service ideas, customer satisfaction levels, competitive positions and merger/acquisition options.

INPUT advises users on a variety of IT planning and implementation issues. Clients retain INPUT to assess the effectiveness of outsourcing their IT operations, assist in the vendor selection process and in contract negotiation/implementation. INPUT has also evaluated users' plans for systems and applications downsizing.

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